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63-3-2

MEMORANDUM REPORT

PROJECT NO. 150-25

MILITARY CROSS-COUNTRY
FLIGHT ACTIVITY

Typical Busy Day

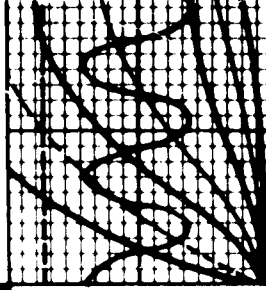
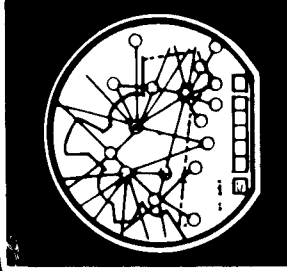
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FEDERAL AVIATION AGENCY
Systems Research & Development Service
Systems Management Division

Traffic and Economic Analysis Area
Washington, D.C.

MEMORANDUM REPORT

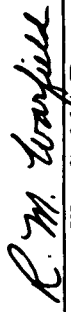
MILITARY CROSS-COUNTRY FLIGHT ACTIVITY
TYPICAL BUSY DAY

Project No. 150-2S


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February 1963

FEDERAL AVIATION AGENCY
Systems Research and Development Service
Systems Management Division
Washington 25, D.C.

ABSTRACT

Systems Management Division, Systems Research and Development Service
Federal Aviation Agency, Washington, D.C.
MILITARY CROSS-COUNTRY FLIGHT ACTIVITY, TYPICAL BUSY DAY
Prepared by Richard G. Brown, Traffic and Economic Analysis Area
43 pp. includ. 23 figs., Memorandum Report

Continuing changes in the quantities and types of aircraft flown by the military services are such that periodic updating of military flight activity is necessary.

This report was prepared from flight plans submitted for three peak days in Fiscal Year 1961 by the Military Flight Service Centers.

The information presented in this report describes military cross-country flight activity in the Continental United States on a typical busy day.

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INTRODUCTION

The purpose of this report is to update a previous survey of military cross-country flight activity prepared by the Traffic and Economic Analysis Area in 1958. This typical busy day of military itinerant flight activity was prepared from flight plans submitted for three peak days in FY 1961 by the Military Flight Service Centers. All peak days assembled into a typical busy day fell on a Friday.

Military cross-country flying as used in this report includes point-to-point and round-robin flights. Point-to-point flights depart one airfield and arrive at another. Round-robin flights leave the area defined as local, usually a radius of 100 miles, and return to the departure airfield without an intermediate stop of more than fifteen minutes for the purpose of discharging passengers. Also included are local flights which have filed an IFR flight plan.

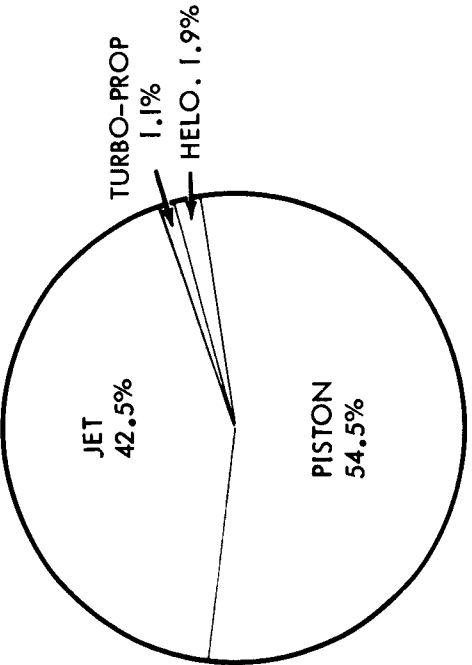
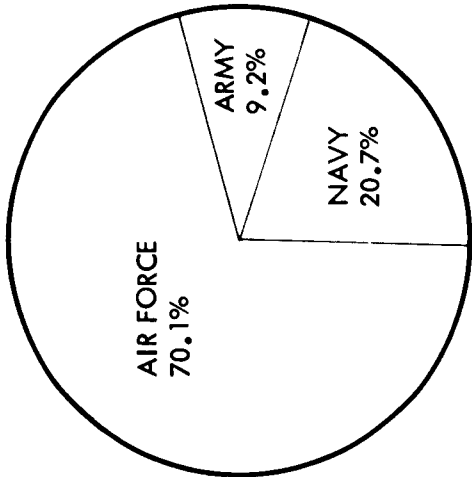
Those portions of the report indicating flight activity pictorially were prepared on the Cartographatron, an electronic machine which displays data feed-in thru a cathode ray tube used in combination with photographic emulsion.

The information presented in this report, together with data pertaining to military local, general aviation, and air carrier activity, is used to determine traffic activity estimates which indicate necessary changes in the national airspace utilization system, equipment justification and modernization.

DISTRIBUTION OF FLIGHTS BY AIRCRAFT TYPE AND SERVICE

AIRCRAFT TYPE	ALL SERVICES		AIR FORCE		NAVY		ARMY	
	No.	%	No.	%	No.	%	No.	%
Total	5,141	100	3,602	100	1,065	100	474	100
Jet	2,183	42.5	1,897	52.7	286	26.9	-	-
Piston	2,803	54.5	1,647	45.7	742*	69.6	414	87.4
Turbo-Prop	58	1.1	57	1.6	-	-	1	0.2
Helicopter	97	1.9	1	a/	37	3.5	59	12.4

* Includes One Airship Flight a/ Less Than 0.05%



DISTRIBUTION OF FLIGHTS BY CLASS AIRCRAFT AND SERVICE

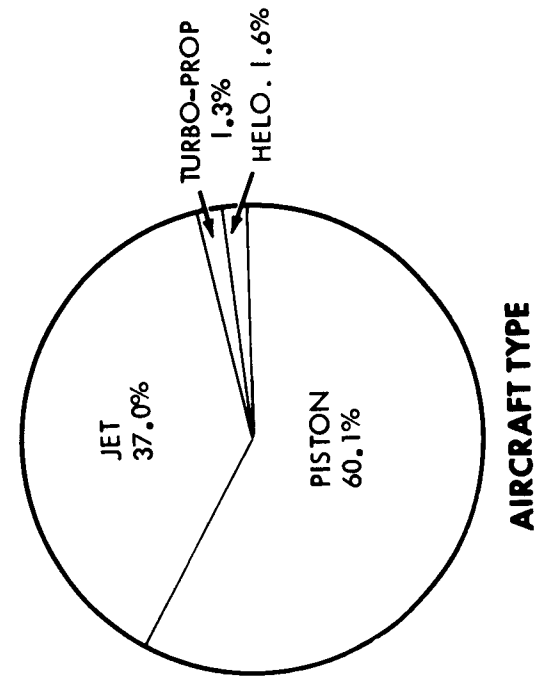
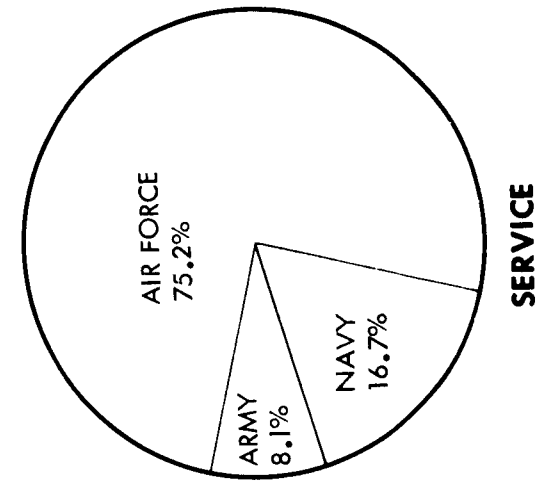
<u>Aircraft Class</u>	<u>All Services</u>		<u>Air Force</u>		<u>Navy</u>		<u>Army</u>	
	<u>No.</u>	<u>%</u>	<u>No.</u>	<u>%</u>	<u>No.</u>	<u>%</u>	<u>No.</u>	<u>%</u>
TOTAL	5,141	100.0	3,602	100.0	1,065	100.0	474	100.0
Single Eng. Reciprocating								
Light	131	2.5	6	.2	3	.3	122	25.8
Heavy	346	6.7	96	2.7	48	4.5	202	42.6
Multi-Eng. Reciprocating								
Under 12,500 lbs.	553	10.8	194	5.4	270	25.4	89	18.8
Over 12,500 lbs.	1,772	34.5	1,351	37.5	420	39.4	1	.2
Turbo-Prop	58	1.1	57	1.6	-	-	1	.2
Turbo-Jet								
Single Engine	1,503	29.3	1,261	35.0	242	22.7	-	-
Multi-Engine	680	13.2	636	17.6	44	4.1	-	-
Helicopter	97	1.9	1	a/	37	3.5	59	12.4
Airship	1	a/	-	-	1	.1	-	-
Round-Robin Flights	1,109	21.6	894	24.8	156	14.7	59	12.4
Point-to-Point Flights	4,032	78.4	2,708	75.2	909	85.3	415	87.6
All Flights	5,141	100.0	3,602	100.0	1,065	100.0	474	100.0

a/ Less than 0.05%

DISTRIBUTION OF HOURS AIRBORNE BY AIRCRAFT TYPE AND SERVICE

AIRCRAFT TYPE	ALL SERVICES		AIR FORCE		NAVY		ARMY	
	No.	%	No.	%	No.	%	No.	%
Total	15,324	100	11,523	100	2,562	100	1,239	100
Jet	5,668	37.0	5,258	45.6	410	16.0	-	-
Piston	9,205	60.1	6,061	52.6	2,086*	81.4	1,058	85.4
Turbo-Prop	207	1.3	202	1.8	-	-	5	0.4
Helicopter	244	1.6	2	a/	66	2.6	176	14.2

* Includes 32 Airship Hours a/ Less Than 0.05%



DISTRIBUTION OF HOURS AIRBORNE BY CLASS AIRCRAFT AND SERVICE

Aircraft Class	All Services		Air Force		Navy		Army	
	No.	%	No.	%	No.	%	No.	%
TOTAL	15,324	100.0	11,523	100.0	2,562	100.0	1,239	100.0
Single Eng. Reciprocating								
Light	334	2.2	8	.1	5	.2	321	25.9
Heavy	829	5.4	193	1.7	106	4.1	530	42.8
Multi-Eng. Reciprocating								
Under 12,500 lbs.	1,349	8.8	480	4.2	663	25.9	206	16.6
Over 12,500 lbs.	6,661	43.4	5,380	46.7	1,280	50.0	1	.1
Turbo-Prop	207	1.4	202	1.7	-	-	5	.4
Turbo-Jet								
Single Engine	2,250	14.7	1,944	16.9	306	11.9	-	-
Multi-Engine	3,418	22.3	3,314	28.7	104	4.1	-	-
Helicopter	244	1.6	2	a/	66	2.6	176	14.2
Airship	32	.2	-	-	32	1.2	-	-
Round-Robin Flights	5,787	37.8	4,948	42.9	569	22.2	270	21.8
Point-to-Point Flights	9,537	62.2	6,575	57.1	1,993	77.8	969	78.2
All Flights	15,324	100.0	11,523	100.0	2,562	100.0	1,239	100.0

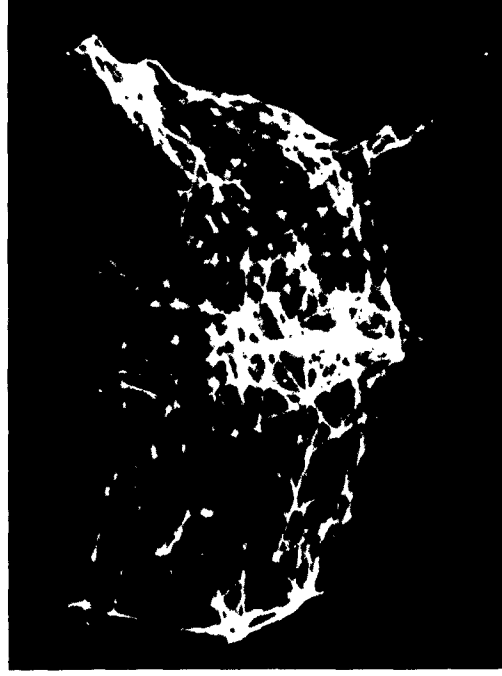
a/ Less than 0.05%

DISTRIBUTION OF FLIGHTS BY MISSION AND SERVICE

<u>Mission</u>	<u>All Services</u>		<u>Air Force</u>		<u>Navy</u>		<u>Army</u>	
	<u>No.</u>	<u>%</u>	<u>No.</u>	<u>%</u>	<u>No.</u>	<u>%</u>	<u>No.</u>	<u>%</u>
TOTAL	5,141	100.0	3,602	100.0	1,065	100.0	474	100.0
Bomber	594	11.6	486	13.5	108	10.1	-	-
Fighter	425	8.3	261	7.2	164	15.4	-	-
Tanker	192	3.7	192	5.4	-	-	-	-
Recco, ASW, Warning	158	3.1	-	-	158	14.8	-	-
Transport	1,560	30.3	1,188	33.0	245	23.0	127	26.8
Utility	357	6.9	166	4.6	21	2.0	170	35.9
Liaison	121	2.4	-	-	3	.3	118	24.9
Training	1,636	31.8	1,308	36.3	328	30.8	-	-
Helicopter	97	1.9	1	a/	37	3.5	59	12.4
Airship	1	a/	-	-	1	.1	-	-

a/ Less than 0.05%

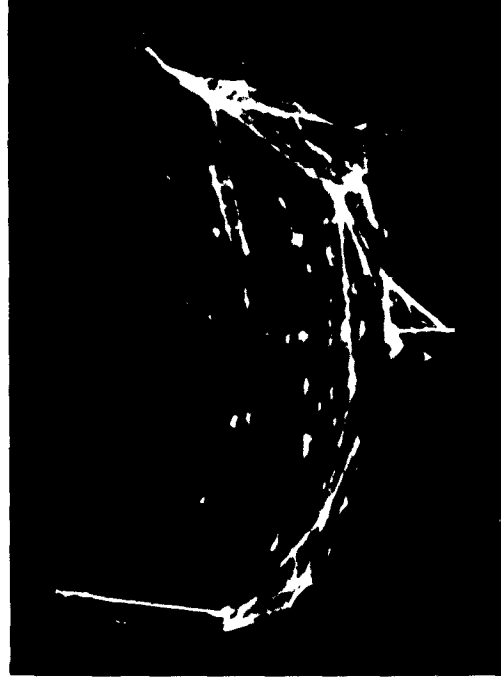
MILITARY ITINERANT AIR TRAFFIC FLOW BY MISSION



TACTICAL AND TACTICAL SUPPORT

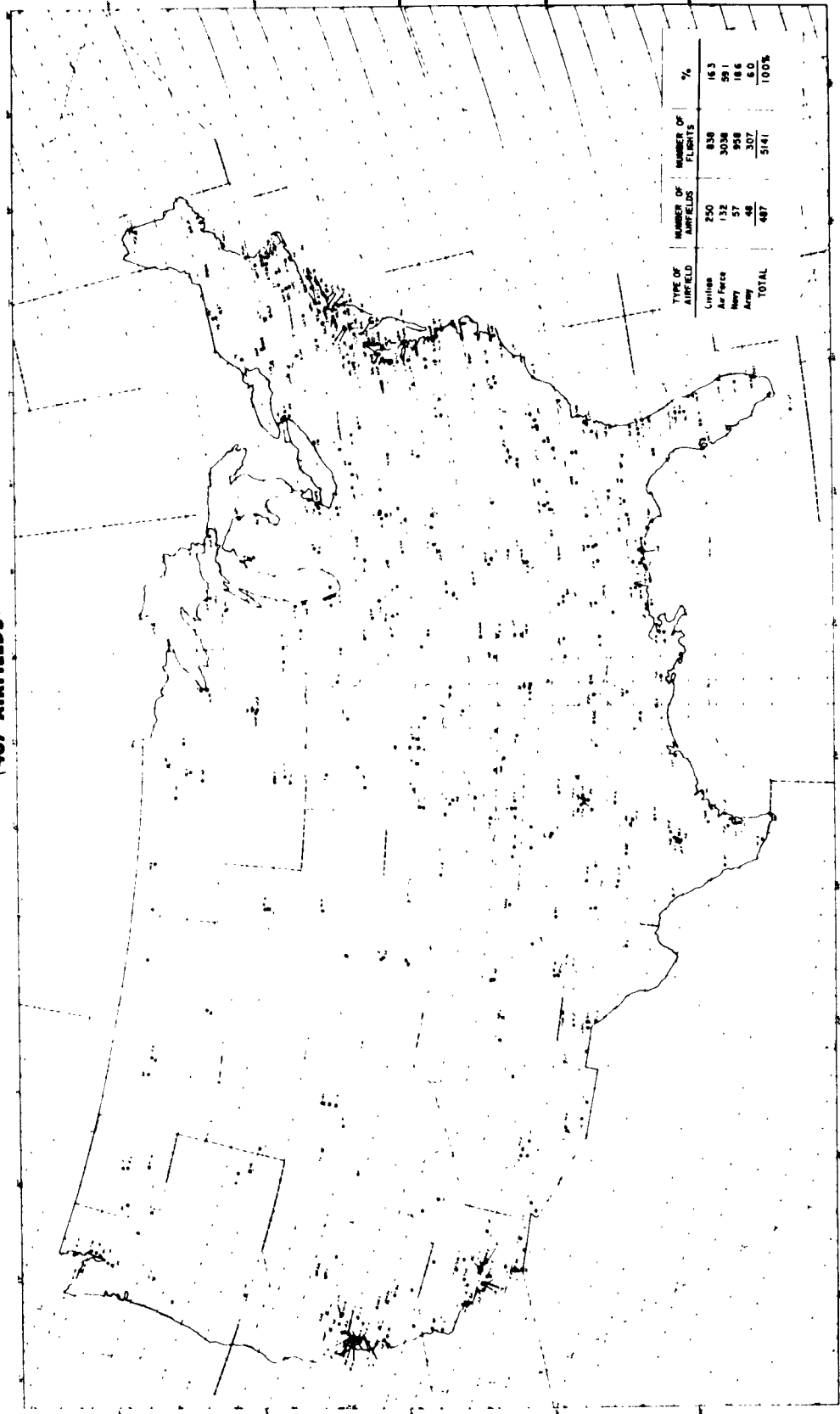


ADMINISTRATIVE AND SUPPORT



TRAINING AND PROFICIENCY

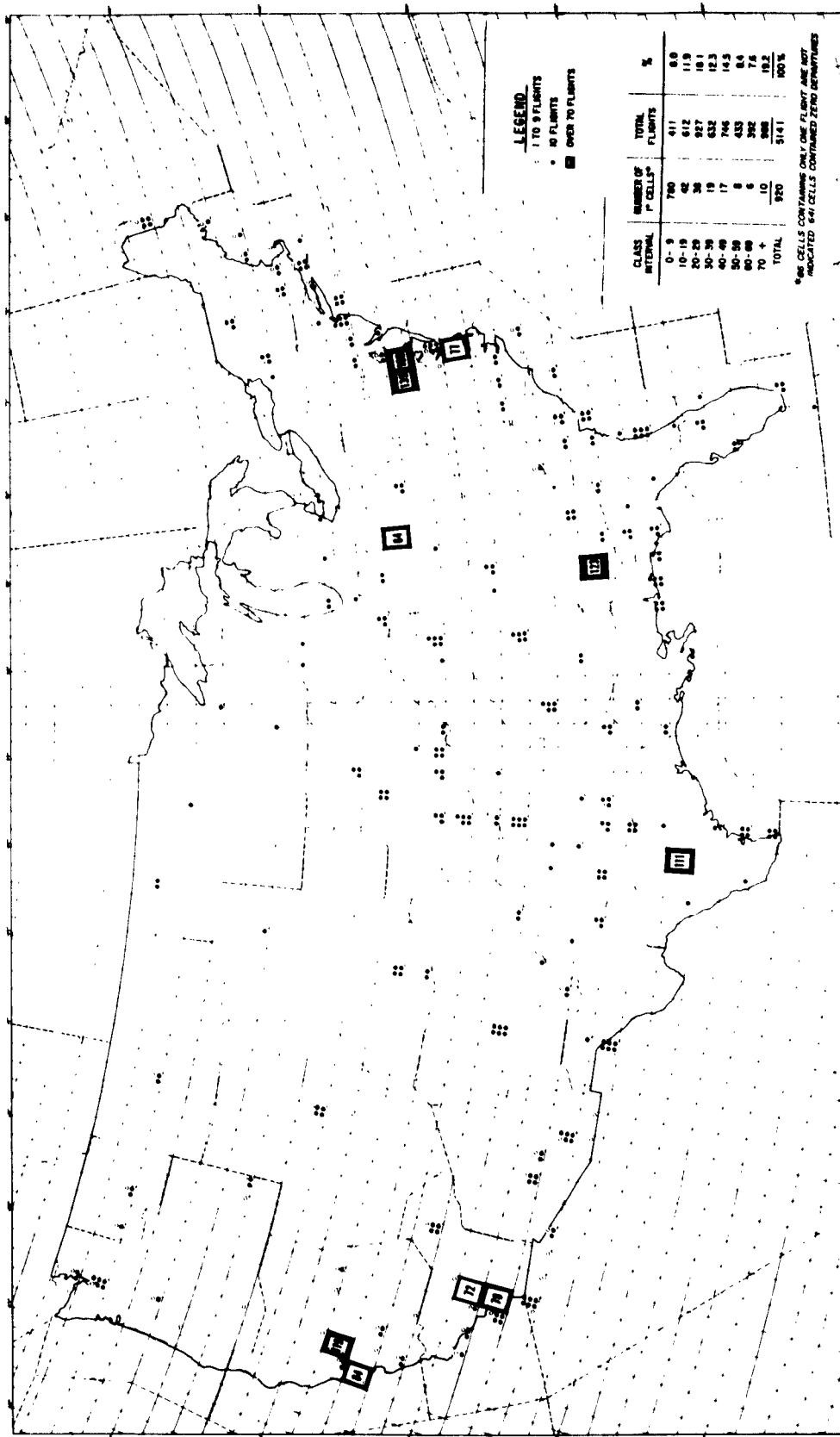
GEOGRAPHICAL LOCATION OF DEPARTURE AIRFIELDS WITHIN ARTCC BOUNDARIES **(487 AIRFIELDS)**



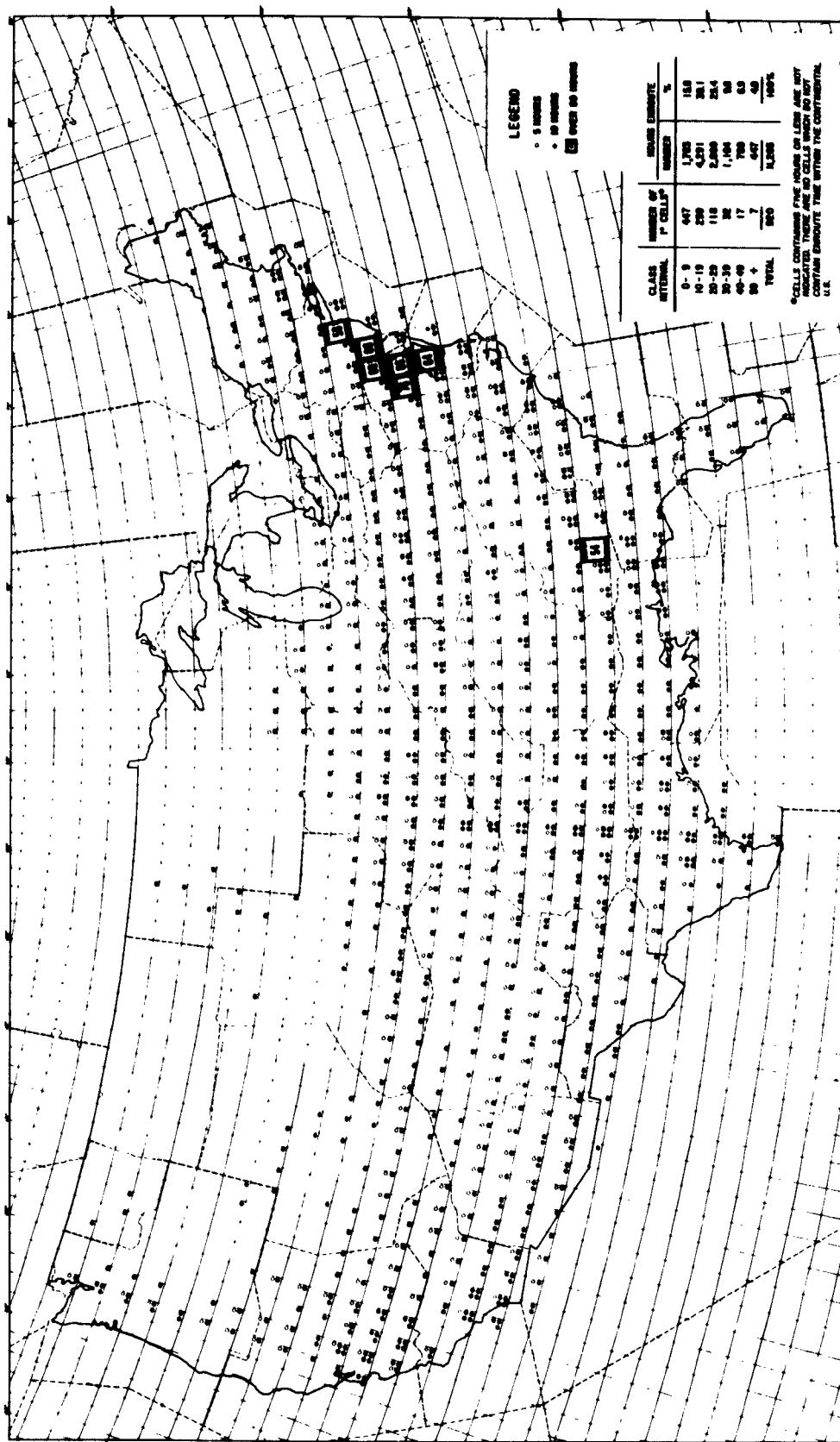
BUSIEST 26 DEPARTURE LOCATIONS

<u>Airfield</u>	<u>Location Identifiers</u>	<u>Location</u>		<u>Major Activities</u>	<u>Departures</u>	
		<u>State</u>	<u>ARTCC</u>		<u>No</u>	<u>%</u>
Maxwell AFB	MXF	Ala.	2	MTC, AU	248	4.8
Andrews AFB	ADW	Md.	29	MTC, ADC, ANG, Res. TAC	213	4.1
Kirtland AFB	ABQ	N.M.	1	SAC, ARD, ANG	194	3.8
Wright-Patterson AFB	FPO	Ohio	5	SAC, ATC	193	3.8
Tinker AFB	TIK	Okla.	10	MTC, Res. TAC	181	3.5
Scott AFB	BLV	Ill.	24	MTC, Res. TAC	178	3.4
Anacostia NAS	NSF	D.C.	29	LANT, NART, RDT&E	161	3.1
Bolling AFB	BOF	D.C.	29	MTC, HQC.	160	3.1
Jacksonville NAS	NIP	Fla.	12	LANT, NART, BUWEPS	147	2.9
McClellan AFB	MCC	Calif.	21	ADC, Res. TAC	144	2.8
Randolph AFB	RND	Tex.	26	SAC, MTC, ATC, TAC	143	2.8
McConnell AFB	LAB	Kans.	13	SAC, ANG	142	2.8
San Diego NAS	NZY	Calif.	14	PAC, BUWEPS	139	2.7
Kelly AFB	SKF	Tex.	26	MTC, AMC, ANG, Res. TAC	138	2.7
Davis-Monthan AFB	DMA	Ariz.	22	SAC, ADC	137	2.7
Nellis AFB	LSV	Nev.	14	TAC	134	2.6
Harlingen AFB	HGF	Tex.	26	ATC	132	2.6
Dyess AFB	DYS	Tex.	10	SAC, TAC	131	2.5
Hill AFB	HIF	Utah	25	ADC, AMC, Res. TAC	129	2.5
Little Rock AFB	LRF	Ark.	15	SAC, ANG	129	2.5
Lincoln AFB	LNK	Neb.	13	SAC, ANG	128	2.5
Alameda NAS	NGZ	Calif.	21	PAC, BUWEPS, NART	120	2.3
Quonset Point NAS	NCO	R.I.	3	LANT, BUWEPS, RDT&E	119	2.3
March AFB	RIV	Calif.	14	SAC, Res. TAC	118	2.3
Memphis NAS	NQA	Tenn.	15	NATRA, NART	117	2.3
Lockbourne AFB	LCK	Ohio	5	SAC, ADC, ANG	117	2.3
					3,892	75.7

NUMBER OF DEPARTURE FLIGHTS BY 1° CELL



NUMBER OF HOURS AIRBORNE WITHIN 1° CELL



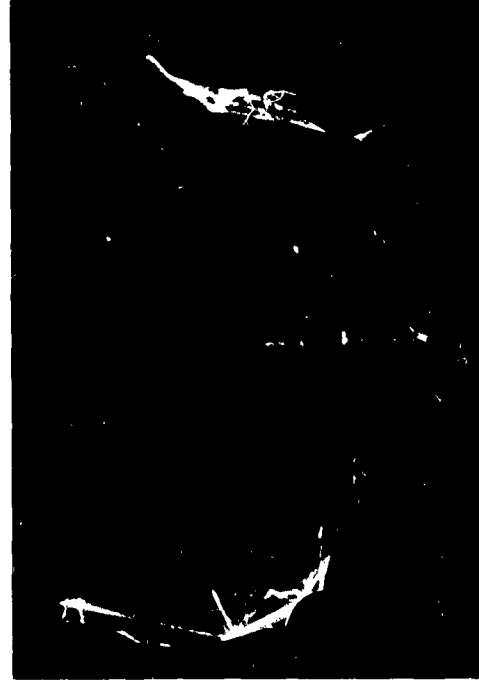
MILITARY ITINERANT AIR TRAFFIC FLOW BY SERVICE



ALL SERVICES



AIR FORCE

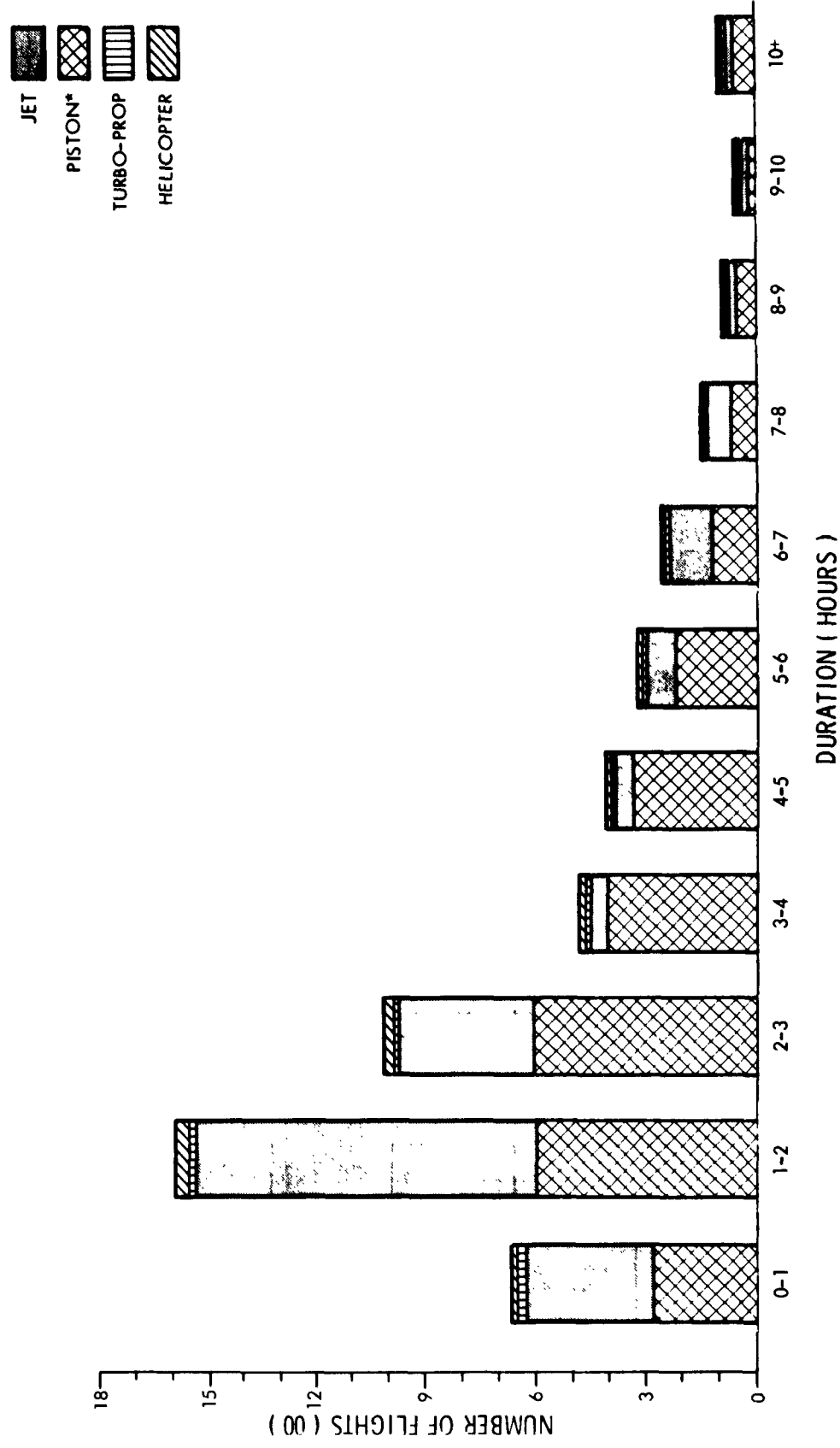


NAVY



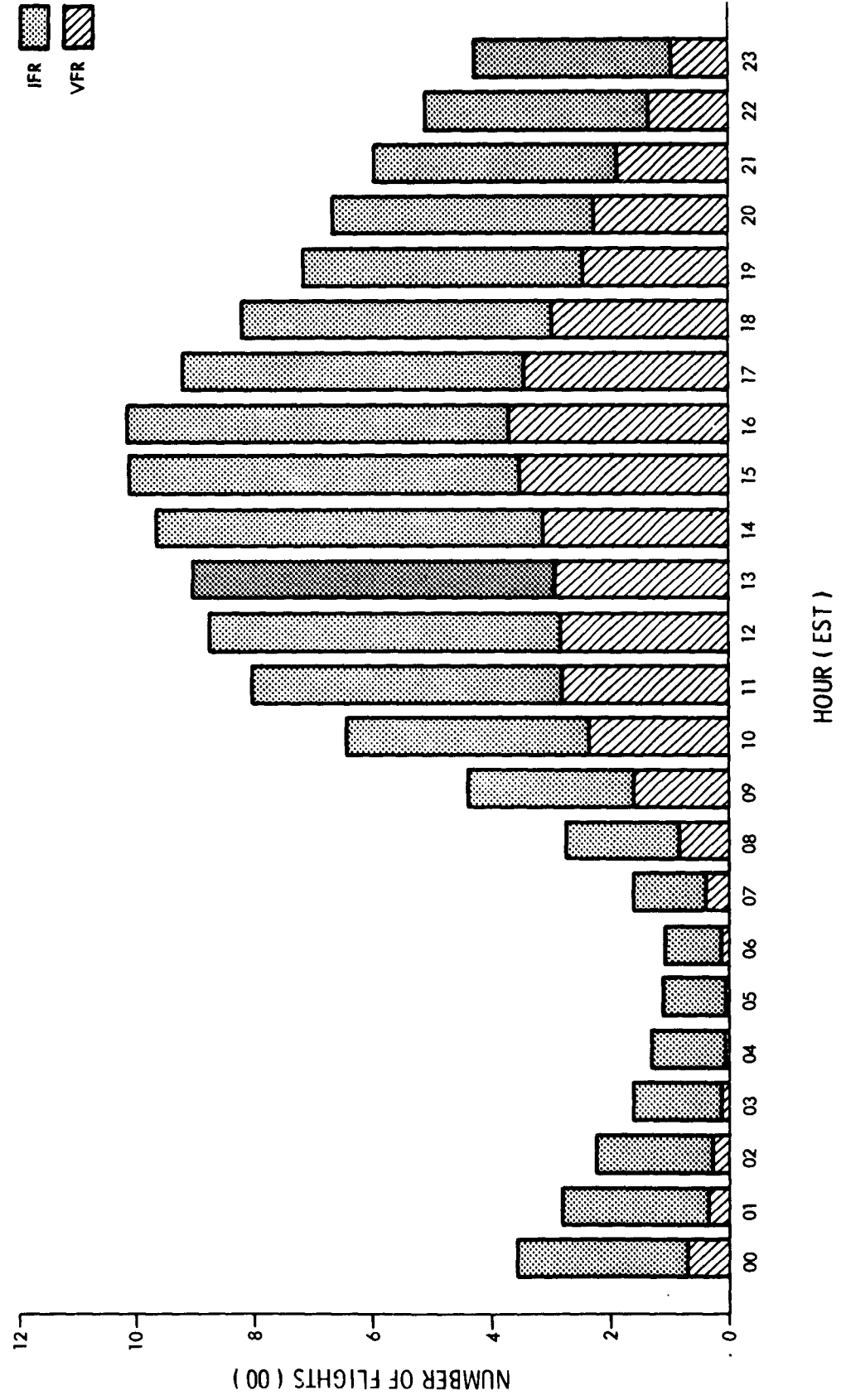
ARMY

DURATION OF FLIGHT BY AIRCRAFT TYPE

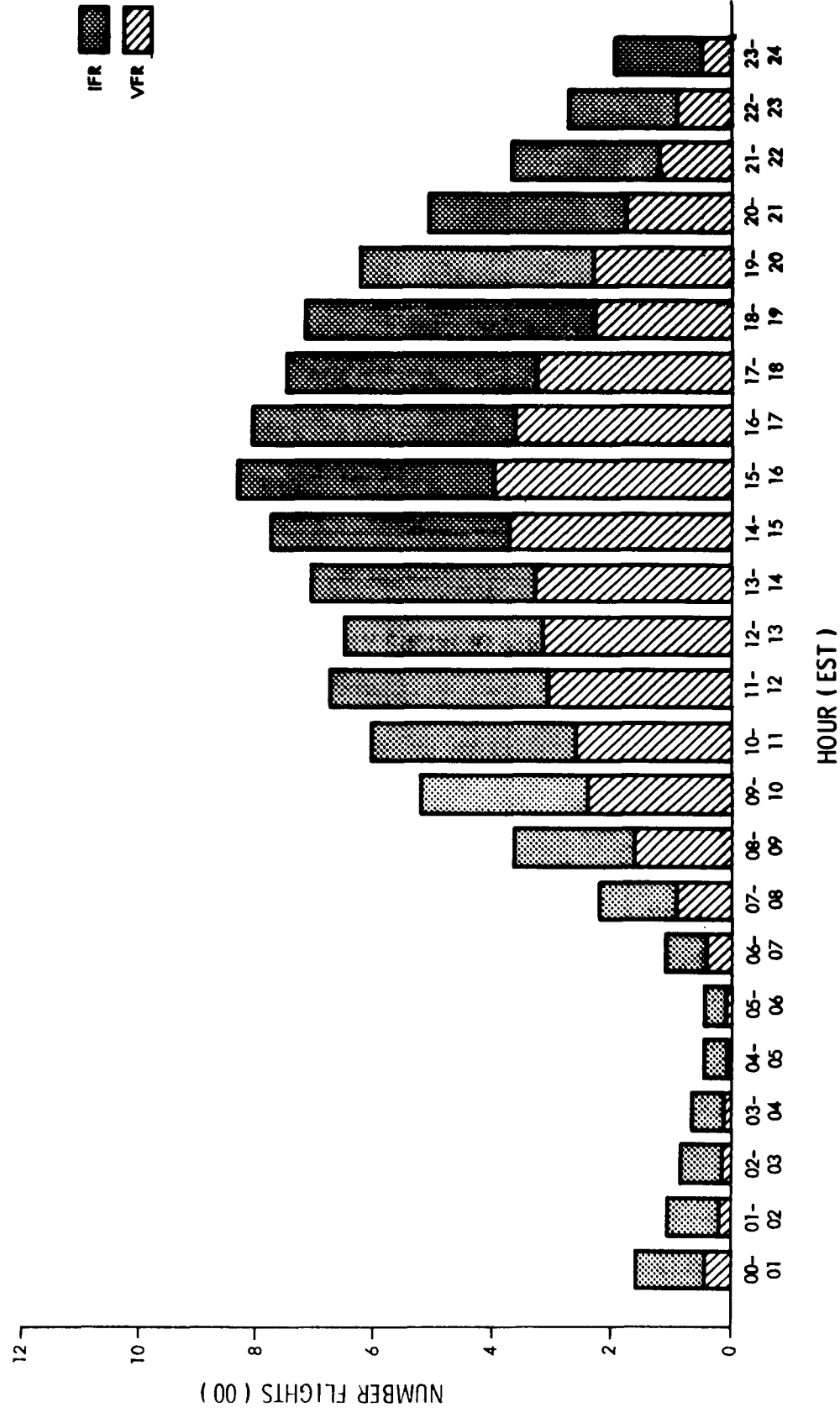


* INCLUDES ONE AIRSHIP FLIGHT OF 32 HOURS DURATION

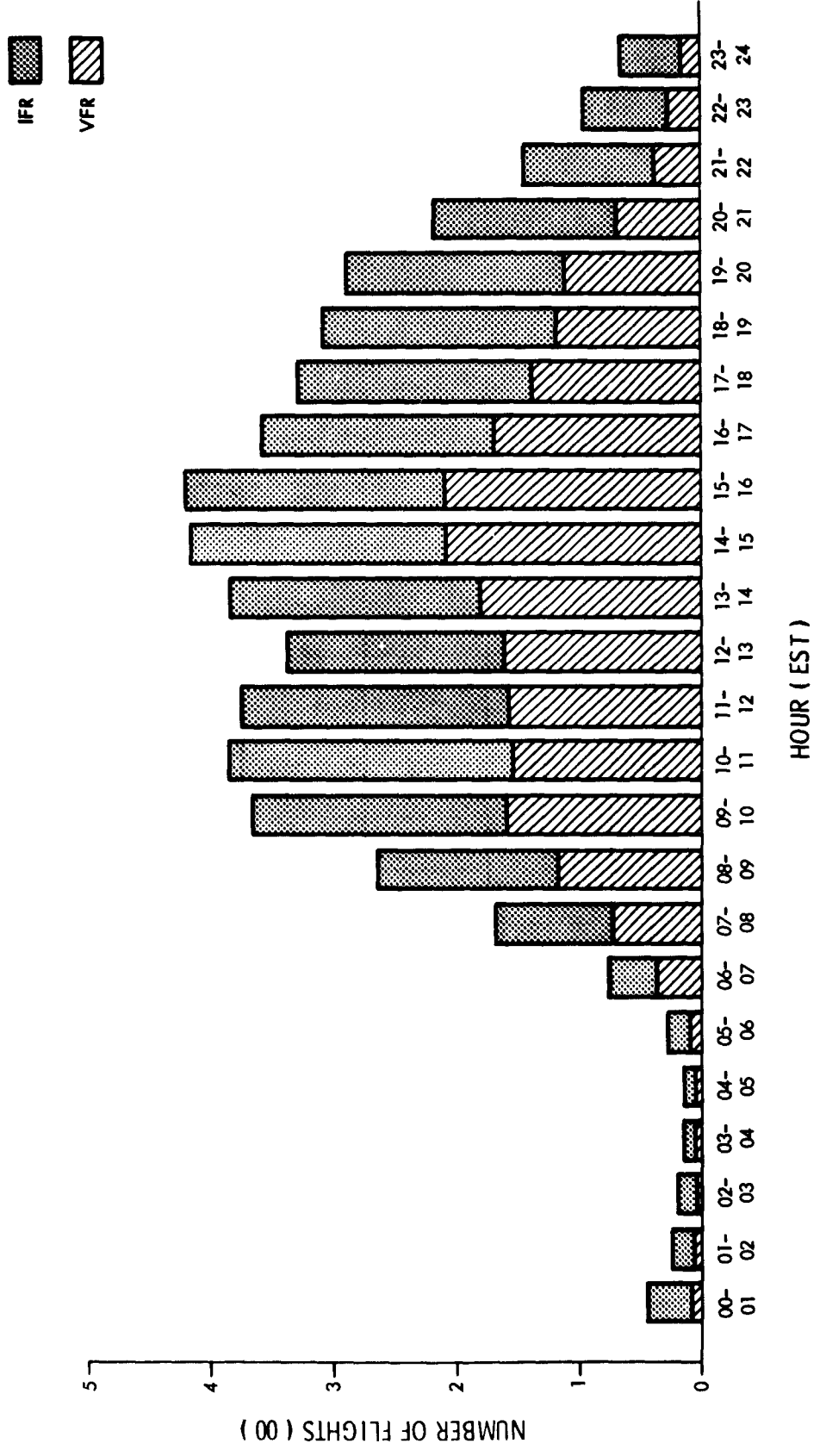
AIRCRAFT AIRBORNE AT THE BEGINNING OF EACH HOUR BY FLIGHT RULE





TOTAL MOVEMENTS BY HOUR AND FLIGHT RULE

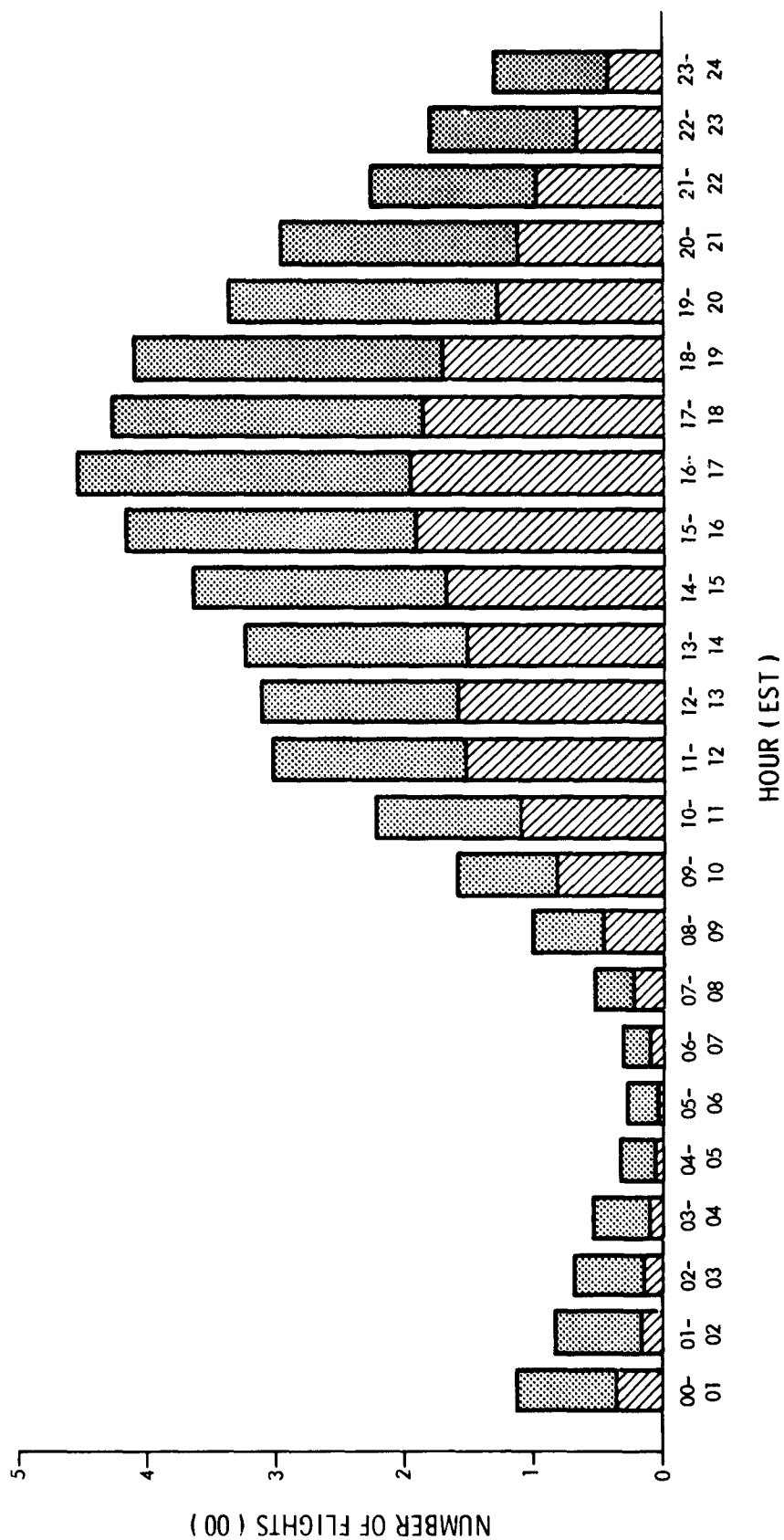


DEPARTURES BY HOUR AND FLIGHT RULE

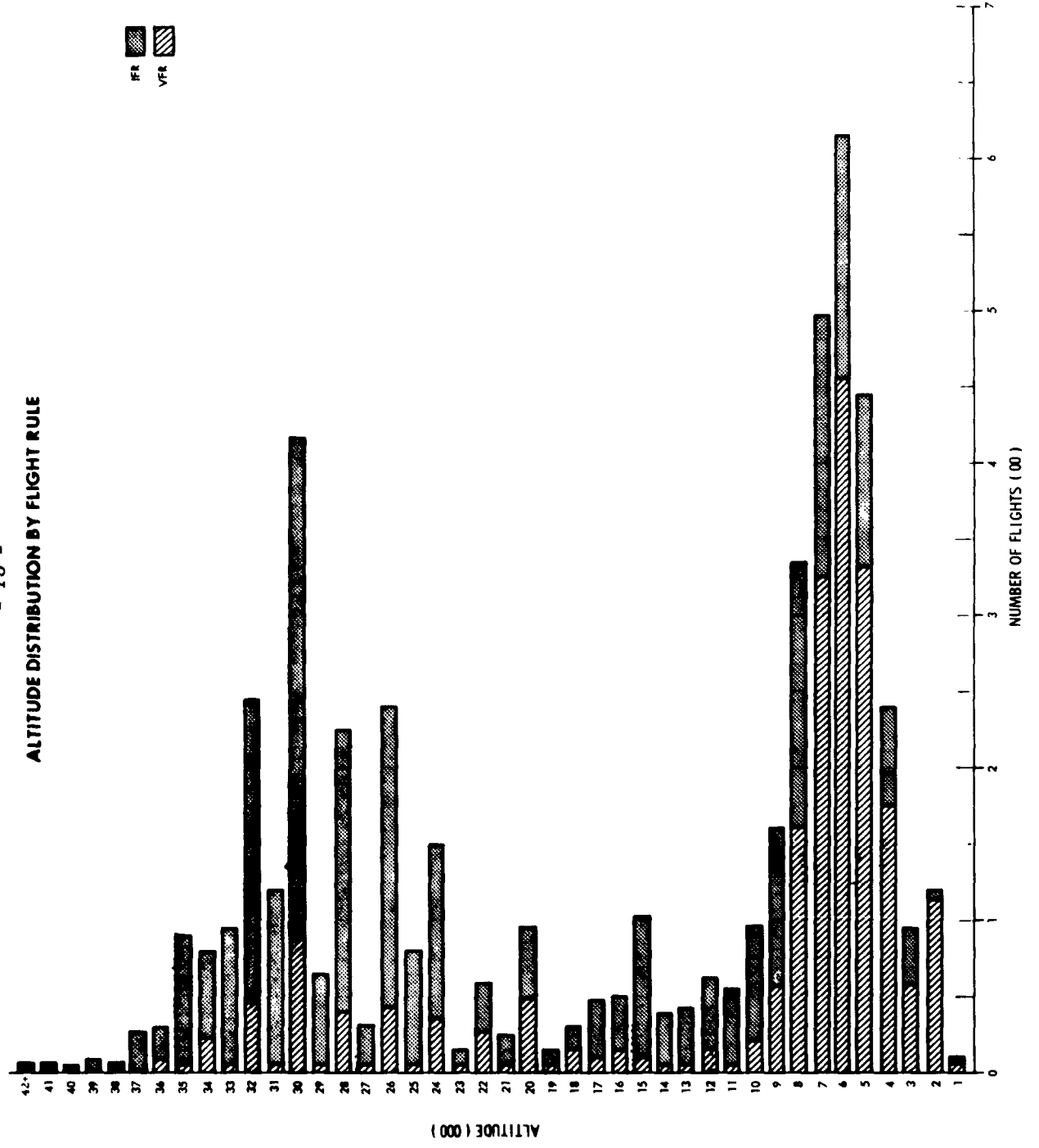


ARRIVALS BY HOUR AND FLIGHT RULE

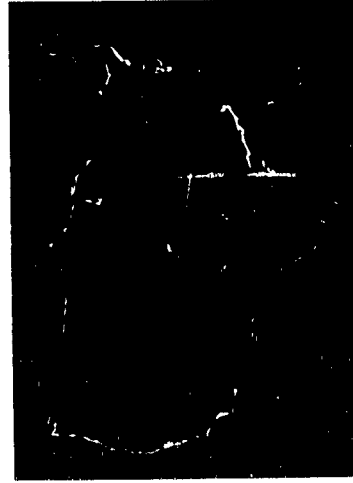
 IFR
 VFR



ALTITUDE DISTRIBUTION BY FLIGHT RULE



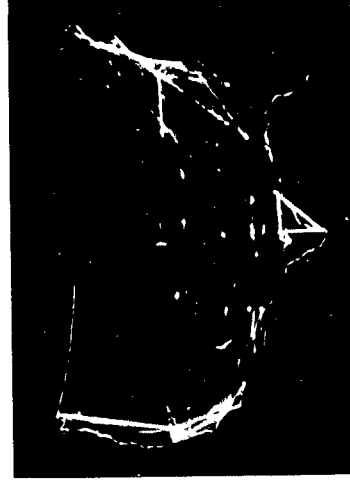
MILITARY ITINERANT AIR TRAFFIC FLOW BY ALTITUDE STRATA



0 TO 3,000 FEET



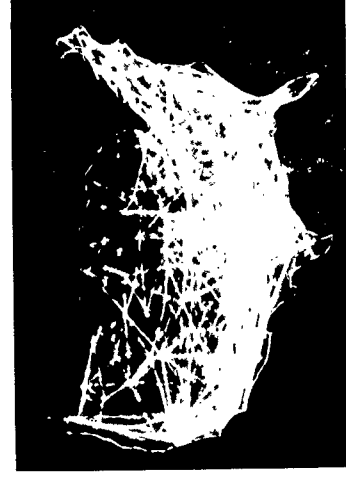
3,000 TO 8,000 FEET



8,000 TO 15,000 FEET

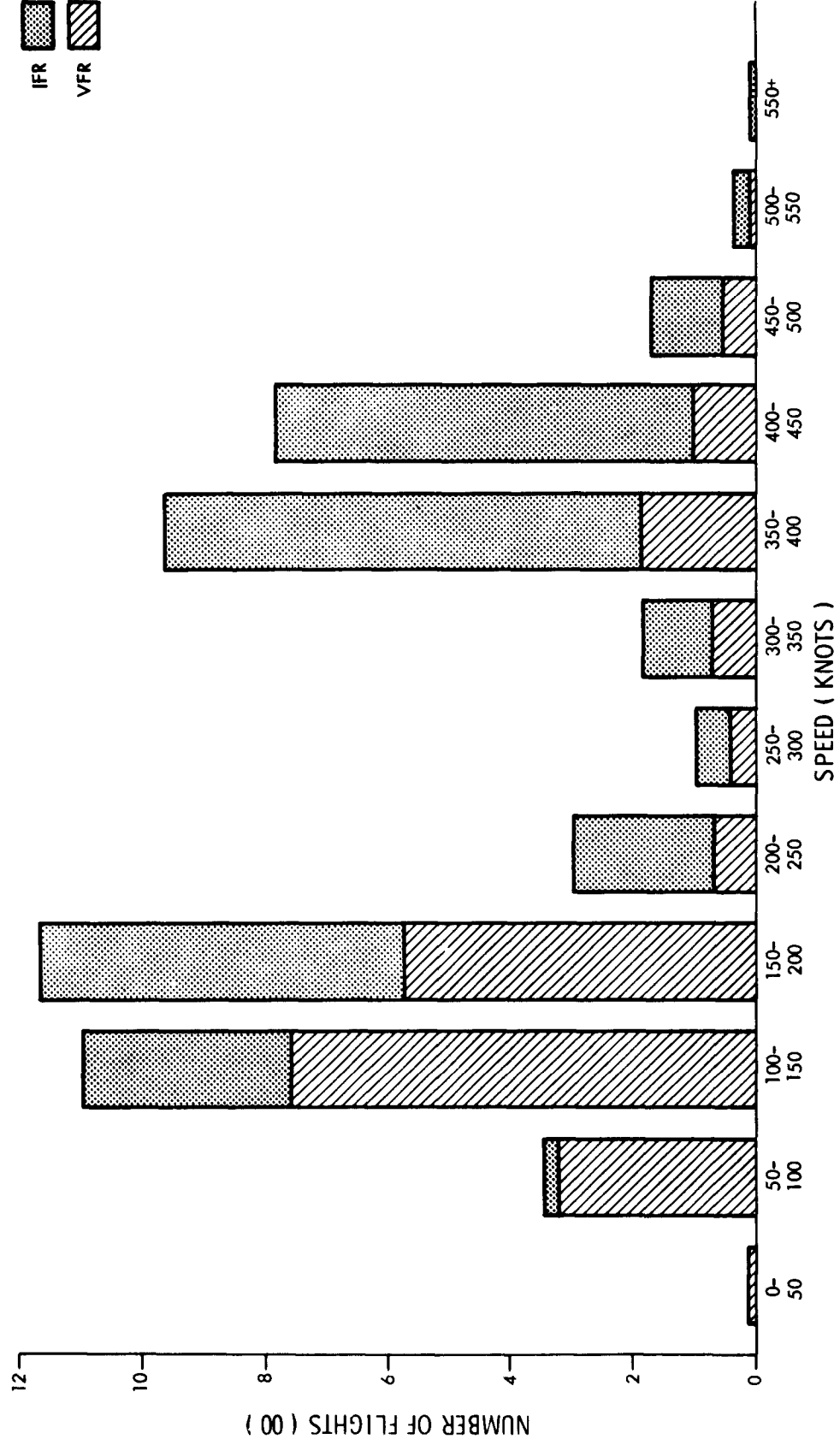


15,000 TO 24,000 FEET

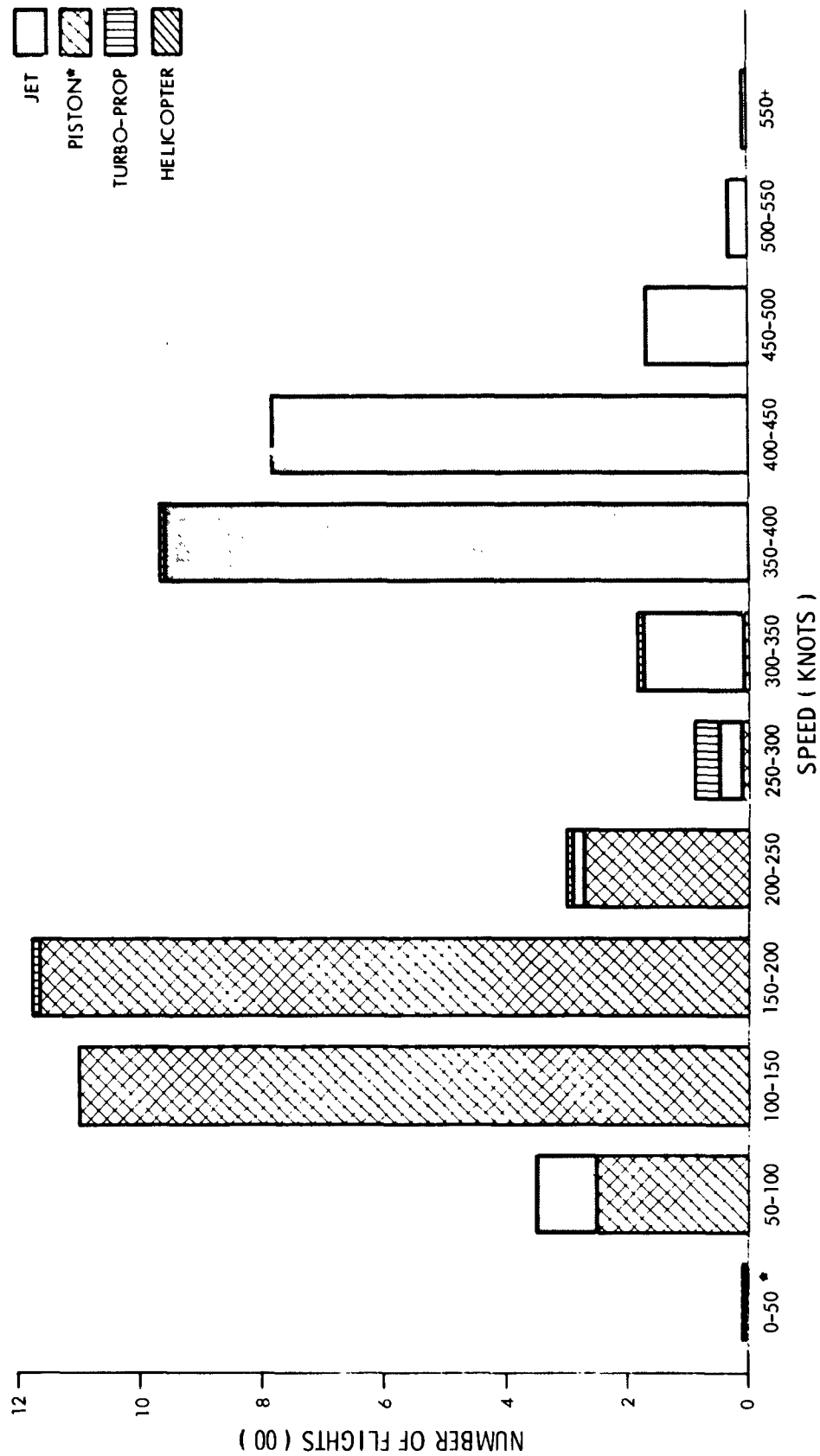


24,000 FEET AND OVER

SPEED DISTRIBUTION BY FLIGHT RULE

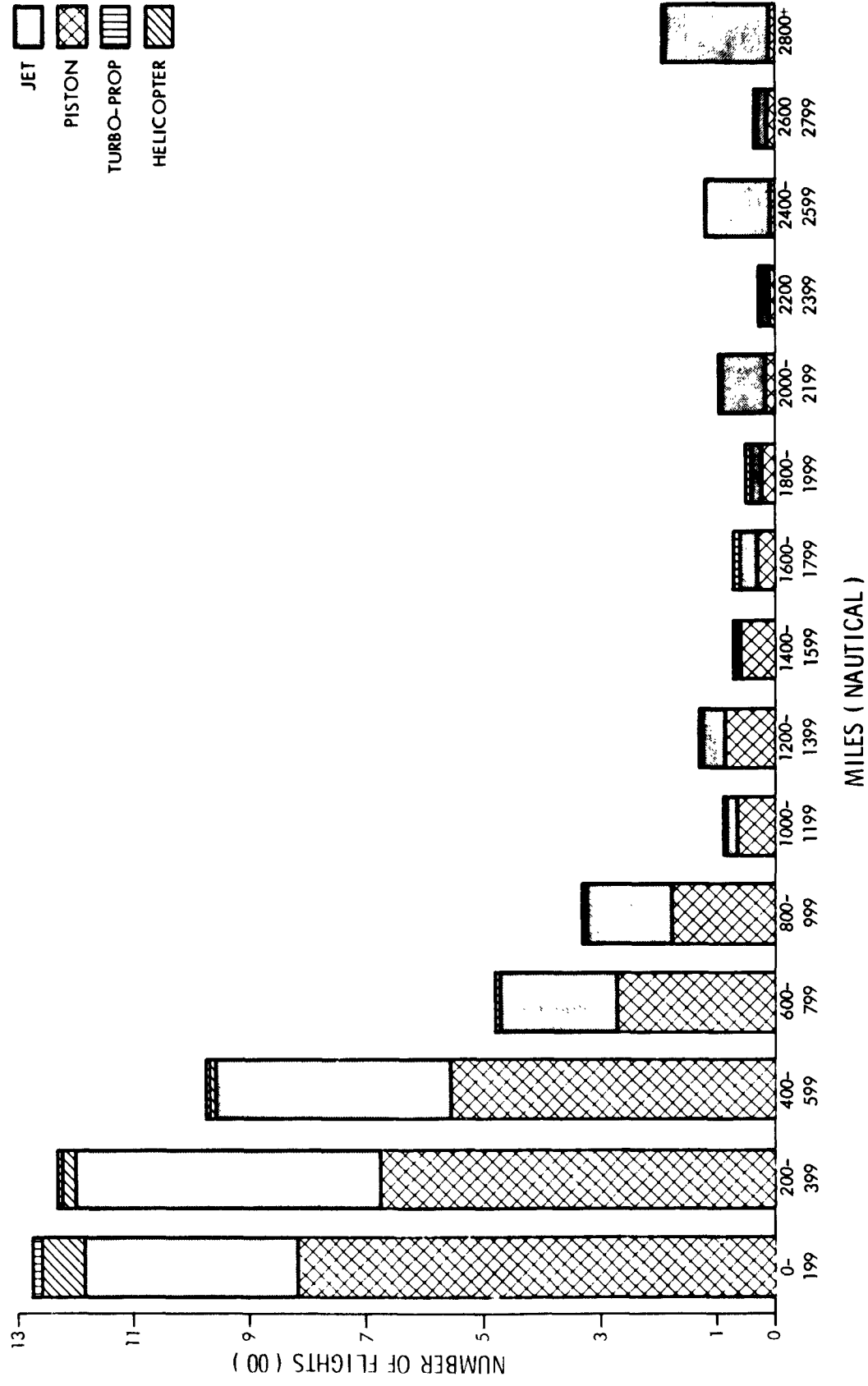


SPEED DISTRIBUTION BY AIRCRAFT TYPE

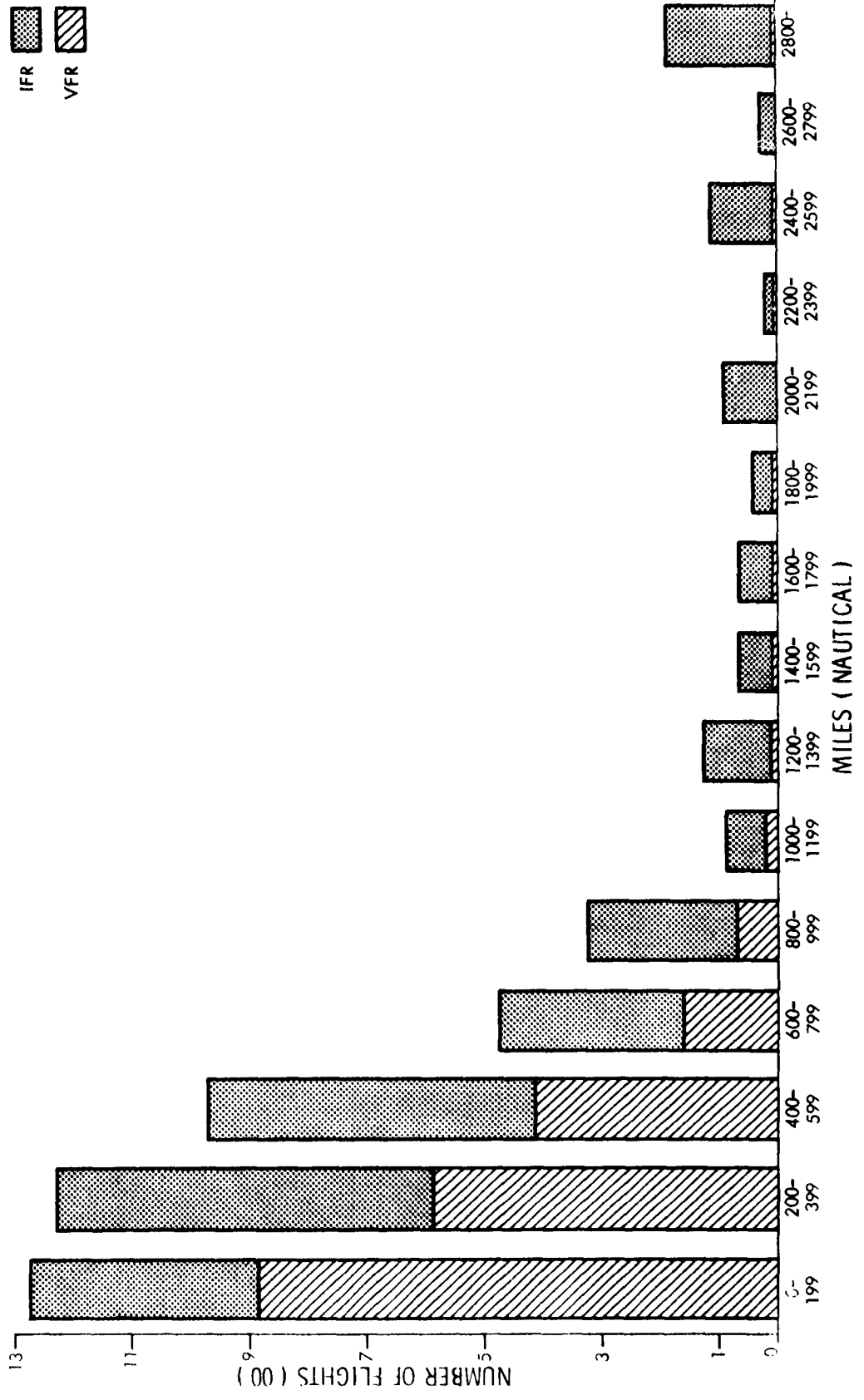


* INCLUDES ONE AIRSHIP FLIGHT

DISTANCE FLOWN BY AIRCRAFT TYPE



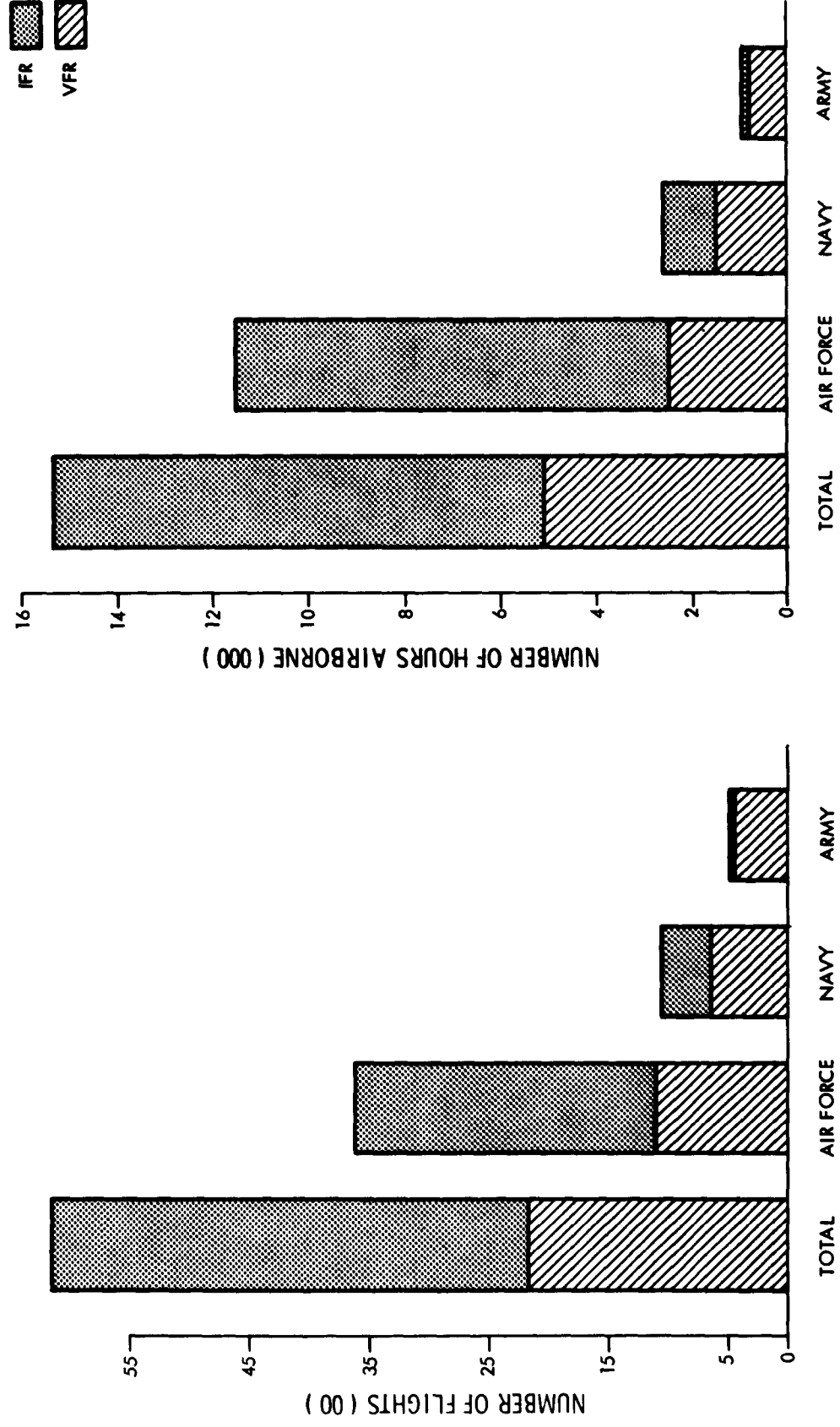
DISTANCE FLOWN BY FLIGHT RULE



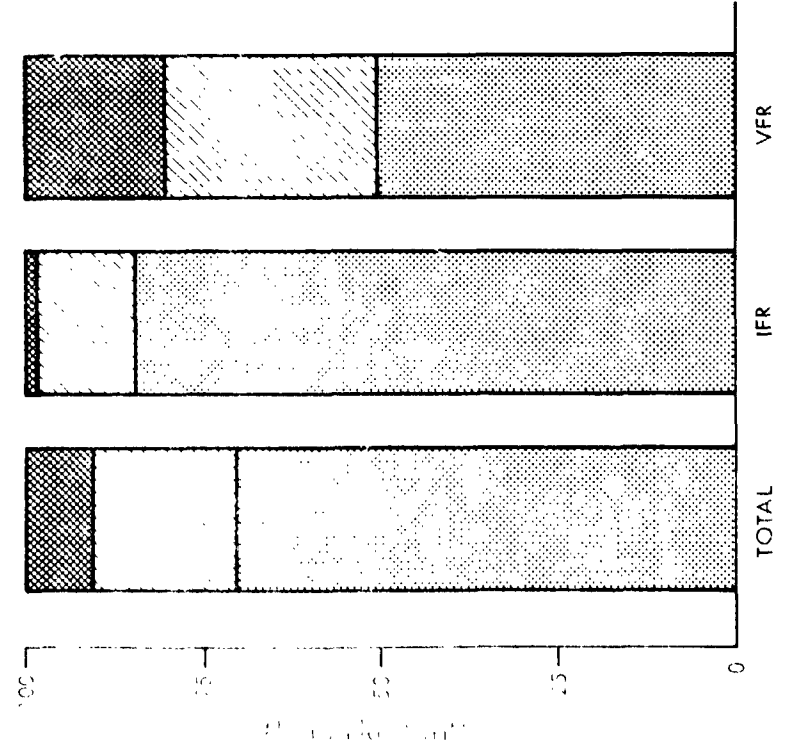
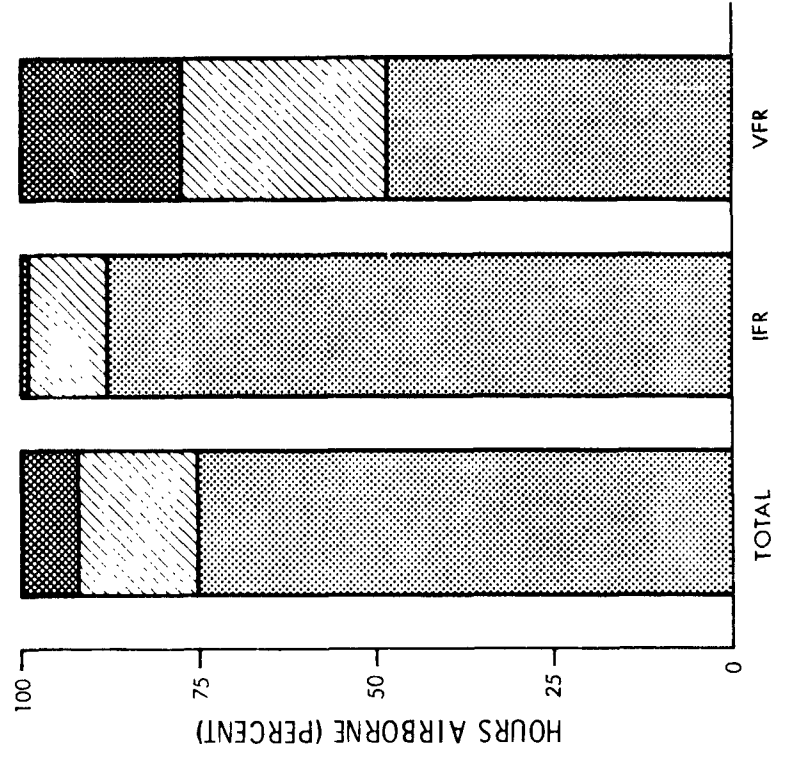
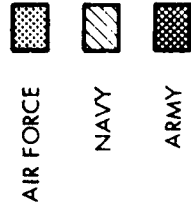
DISTRIBUTION OF FLIGHTS AND HOURS AIRBORNE BY FLIGHT RULE

		Total		Air Force		Navy		Army	
		A/C	Hrs.	A/C	Hrs.	A/C	Hrs.	A/C	Hrs.
Single Engine, Reciprocating Light	IFR	5	12	-	-	-	-	5	12
	VFR	126	322	6	8	3	5	117	309
Heavy	IFR	67	165	33	71	10	26	24	68
	VFR	279	664	63	122	38	80	178	462
Multi-Engine, Reciprocating Light	IFR	128	346	50	153	65	169	13	24
	VFR	425	1,003	144	327	205	494	76	182
Heavy	IFR	1,000	4,439	790	3,753	210	686	-	-
	VFR	772	2,222	561	1,627	210	594	1	1
Turboprop	IFR	42	180	42	180	-	-	-	-
	VFR	16	27	15	22	-	-	1	5
Turbo-Jet Single Engine	IFR	1,095	1,786	990	1,646	105	140	-	-
	VFR	408	464	271	298	137	166	-	-
Multi-Engine	IFR	637	3,346	603	3,261	34	85	-	-
	VFR	43	72	33	53	10	19	-	-
Helicopter	IFR	3	5	-	-	1	2	2	3
	VFR	94	239	1	2	36	64	57	173
Airship	IFR	-	-	-	-	-	-	-	-
	VFR	1	32	-	-	1	32	-	-
Total	All	5,141	15,324	3,602	11,523	1,065	2,562	474	1,239
	IFR	2,977	10,279	2,508	9,064	425	1,108	44	107
	VFR	2,164	5,045	1,094	2,459	640	1,454	430	1,132

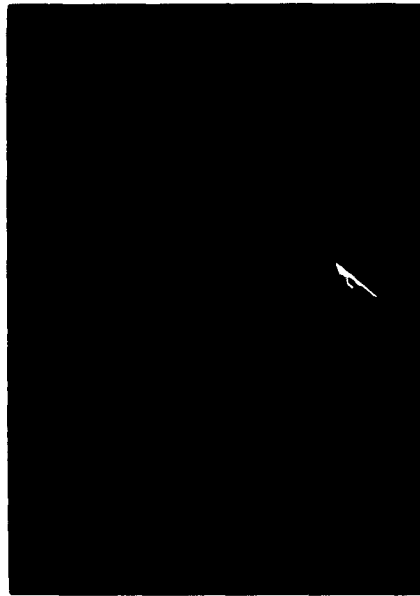
DISTRIBUTION OF FLIGHTS AND HOURS AIRBORNE BY SERVICE BY FLIGHT RULE



DISTRIBUTION OF FLIGHTS AND HOURS AIRBORNE BY FLIGHT RULE BY SERVICE (PERCENT)



MILITARY ITINERANT AIR TRAFFIC FLOW BY FLIGHT RULE

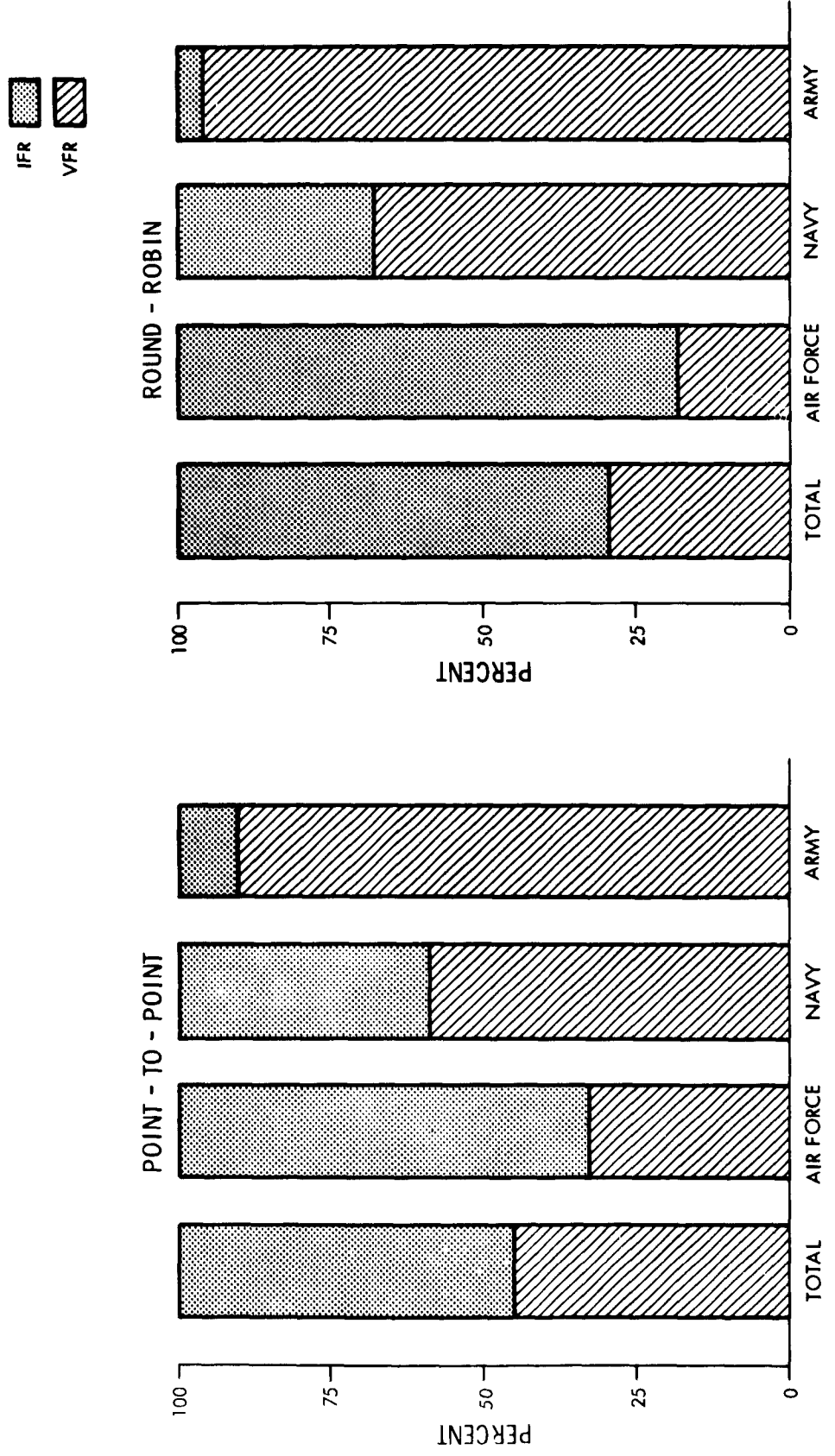


IFR



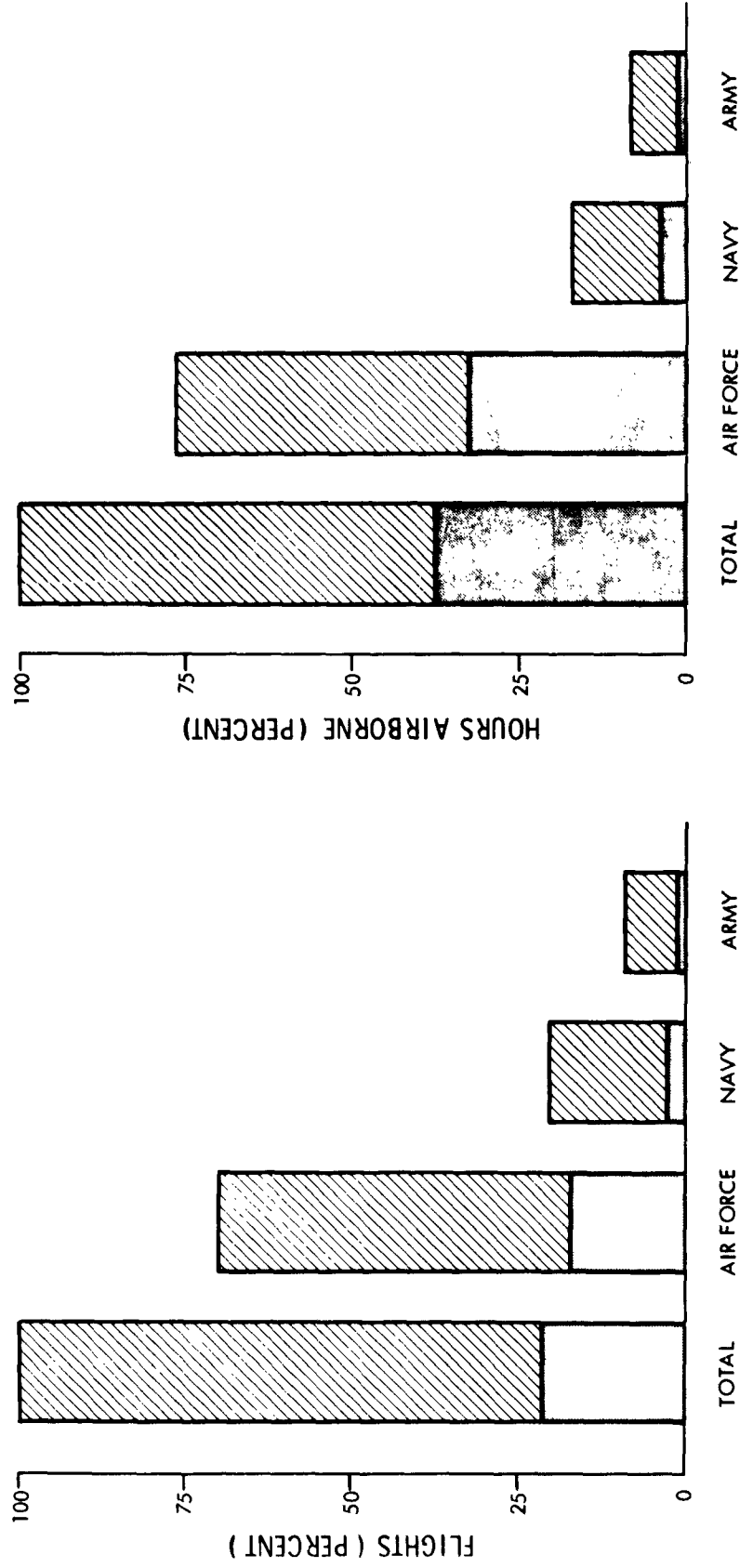
VFR

- 28 -
TYPE OF FLIGHT BY SERVICE BY FLIGHT RULE
(PERCENT)



TYPE OF FLIGHT BY FLIGHTS AND HOURS AIRBORNE BY SERVICE (PERCENT)

POINT-TO-POINT
ROUND-ROBIN



MILITARY ITINERANT AIR TRAFFIC FLOW BY TYPE OF FLIGHT



POINT-TO-POINT



ROUND-ROBIN

COMPARISON OF FY 1961 AND FY 1958
TYPICAL BUSY DAY

	<u>FY 1961 Survey</u>	<u>FY 1958 Survey</u>
Number of Cross-Country Flights	5,141	6,334
Number of Hours Airborne	15,324	16,208
Altitude Average (Feet)	15,700	15,900
Speed Average (Knots)	255	240
Distance Average (Nautical Miles)	660	613
Average Duration of Flight (Hrs.)	2:59	2:33
Per Cent of Total Activity		
Jet	42.5	39.5
Piston*	54.5	57.3
Turboprop	1.1	-
Helicopter	1.9	3.2
	<u>100.0%</u>	<u>100.0%</u>
Air Force	70.1	67.2
Navy	20.7	25.3
Army	9.2	7.5
	<u>100.0%</u>	<u>100.0%</u>

* Includes Airship Activity

SUMMARY

During FY 1961 the six Military Flight Service Centers were requested to submit their peak day of flight activity for each month of the current year to the Federal Aviation Agency. From the data collected and forwarded, three days of peak activity were selected from each Center. These flight plans were then averaged into a typical busy day of military cross-country flight activity. For the purpose of this report multiple flights (two or more aircraft on a single flight plan) were considered to be one flight. On a typical busy day there were 61 multiple flights containing a total of 290 aircraft.

On this typical busy day of military cross-country flight activity there were 5,141 flights which were airborne for 15,324 hours. The Air Force conducted 70.1% of the flights and 75.2% of the hours airborne. The Navy made 20.7% of the flights and 16.7% of the hours airborne. The Army maintained 9.2% of the flights and was airborne 8.1% of the hours.

Jet aircraft accounted for 51.3% of the flights and 36.9% of the hours airborne. Piston driven aircraft were responsible for 45.7% of the flights and 60.1% of the hours airborne. Only 1.1% of the flights and 1.4% of the hours airborne were used by turbo-prop aircraft. Helicopters made 1.9% of the flights and were airborne 1.6% of the hours.

These flights departed from 487 airfields. There were 250 civilian, 132 Air Force, 57 Navy, and 48 Army locations. Air Force departure points accounted for 59.1% of the flight activity, Naval Air Stations for 18.6%, Civilian Airfields for 16.3%, and Army Airfields for 6.0%. The 26 busiest departure airfields, all military, made 75.7% of the total flights.

Concentrations of aircraft departures were located in the areas of Washington, D.C., Norfolk, Va., Montgomery, Ala., Dayton, Ohio, San Antonio, Tex., San Diego, Los Angeles, and San Francisco, Calif. Airborne densities were concentrated near New York, N.Y., Philadelphia, Pa., Baltimore, Md., Washington, D.C., and Montgomery, Ala. The traffic flow of Navy and Army flights was predominant along the eastern and southwestern coasts. Air Force traffic was more uniformly spread over the Continental U.S. VFR activity was heaviest along the northeastern and southwestern coastal regions. IFR flights were relatively uniform over the major portion of the country, with flights less frequent over the north-central and Rocky Mountain areas.

Hourly departures were most frequent between 1400 to 1600 and lowest from 0300 to 0500. Hourly arrivals reached their highest point from 1600 to 1700 and their lowest between 0500 to 0700. The instantaneous airborne count at the beginning of each hour was highest at 1500 to 1700 and dropped to its lowest point from 0400 to 0600.

The most frequent duration of flight was 1 to 2 hours (30.9%), followed by 2 to 3 hours (19.9%). Jet aircraft flew most often from 1 to 2 hours (43.2%), piston aircraft 2 to 3 hours (21.8%), turbo-prop aircraft 1 to 2 hours (25.9%), and helicopters 1 to 2 hours (33.0%).

The most frequently used altitudes were from 3,000 to 8,000 feet, making up 41.6% of the total flight activity. Next were 24,000 feet and over at 33.1%, followed by 15,000 to 24,000 feet at 11.1%, 9,000 to 15,000 feet at 9.8%, and 0 to 3,000 feet at 4.4%. VFR aircraft flew most frequently (66.0%) at altitudes between 3,000 to 8,000 feet. 50.7% of the IFR flights were over 24,000 feet, while a lesser amount (23.8%) was concentrated from 3,000 to 8,000 feet. The pictorial presentations of aircraft movements by altitude strata indicate a decided difference in traffic flow across the country. Flights in the western portion of the 0 to 3,000 feet pictorial presentation were "Fair Ball" routes incorrectly coded as mean sea level. The distinct triangle appearing in southeastern Texas represents the traffic flow of T-29 navigation training flights from Harlingen AFB. These flights were given this uniform traffic pattern because more specific information was not available.

Jet aircraft utilized speeds of 350 to 450 knots 80.0% of the time. 80.8% of the piston aircraft speed usage was from 100 to 200 knots. Turbo-props flew at speeds of 250 to 300 knots 70.7% of the time. 96.9% of the helicopters operated at speeds of 50 to 100 knots.

Distances from 0 to 599 nautical miles were flown by 67.3% of all aircraft. This distance was flown by 59.7% Jet, 72.5% Piston, 46.6% Turbo-prop, and 100.0% of the Helicopters. Flights within this range were made by 59.3% of the Air Force, 82.7% of the Navy, and 93.2% of the Army aircraft.

IFR flights accounted for 57.9% of the flight plans filed and VFR flights accounted for 42.1%. The Air Force filed 69.6% IFR and 30.4% VFR flights. The Navy made 60.1% VFR and 39.9% IFR flights. 90.7% of the Army flights were VFR and 9.3% IFR. Total hours airborne were 67.1% IFR and 32.9%

VFR. The Air Force flew 78.7% of its airborne hours IFR and 21.3% VFR. Navy airborne hours were 43.2% IFR and 56.8% VFR. Only 8.6% of the Army hours airborne were IFR, while 91.4% were VFR. There were 126 DVFR flights (VFR flights within an Air Defense Identification Zone). A majority (85.7%) of DVFR activity was flown by the Navy between ship and shore.

Point-to-point flights accounted for 78.4% of the flights and 62.2% of the hours airborne. Round-robin activity made up only 21.6% of the flights and 37.8% of the airborne hours. Point-to-point flights consisted of 67.2% Air Force, 22.5% Navy, and 10.3% Army. 80.6% of the round-robin flights were Air Force, 14.1% Navy, and 5.3% Army. Point-to-point hours airborne were 68.9% Air Force, Navy 20.9% and Army 10.2%. Round-robin hours were 85.5% Air Force, 9.8% Navy, and 4.7% Army.

Comparison of FY 1961 and FY 1958 cross-country busy day activity indicates: (1) a decrease of 18.8% flights; (2) a 5.5% decrease in the hours airborne; (3) reasonably similar average altitudes; (4) an increase in average speed of 7.9%; (5) an 11.2% increase in the average duration of flight; (6) a 14.5% increase in the ratio of jet to piston aircraft; (7) Minor increases in Air Force (2.9%) and Army (1.7%) portions of the total activity and a decrease (4.6%) in the Navy.

APPENDIX - TABLE 1
HOURLY DISTRIBUTION OF TOTAL MOVEMENTS, DEPARTURES, AND ARRIVALS
BY FLIGHT RULE AND INSTANTANEOUS AIRBORNE COUNT
(Percent)

Hour (EST)	Total Movements			Departures			Arrivals			IAC At Beginning of Hour		
	Total	IFR	VFR	Total	IFR	VFR	Total	IFR	VFR	Total	IFR	VFR
0000	1.6	2.0	1.0	0.9	1.3	0.4	2.3	2.7	1.7	7.0	9.9	3.1
0100	1.1	1.5	0.5	0.5	0.6	0.2	1.7	2.4	0.8	5.7	8.5	1.8
0200	0.9	1.2	0.4	0.4	0.6	0.1	1.4	1.8	0.7	4.4	6.8	1.2
0300	0.6	0.9	0.3	0.3	0.4	0.1	1.0	1.5	0.4	3.4	5.5	.6
0400	0.5	0.7	0.2	0.3	0.4	0.2	0.7	1.0	0.2	2.7	4.3	.4
0500	0.6	0.8	0.3	0.6	0.7	0.4	0.6	0.9	0.1	2.3	3.7	.4
0600	1.1	1.1	1.1	1.5	1.4	1.7	0.6	0.7	0.4	2.3	3.5	.7
0700	2.2	2.1	2.2	3.3	3.2	3.4	1.0	1.0	1.0	3.2	4.1	1.9
0800	3.6	3.4	3.8	5.1	4.9	5.4	2.0	1.8	2.2	5.5	6.3	4.3
0900	5.1	4.8	5.6	7.1	6.9	7.3	3.1	2.6	3.8	8.7	9.4	7.6
1000	5.9	5.8	6.1	7.4	7.7	7.1	4.4	3.8	5.1	12.6	13.8	11.1
1100	6.6	6.2	7.1	7.3	7.3	7.2	5.9	5.0	7.1	15.8	17.7	13.1
1200	6.3	5.5	7.4	6.6	6.0	7.4	6.0	5.1	7.3	17.1	20.0	13.2
1300	6.8	6.3	7.6	7.4	6.9	8.3	6.3	5.8	7.0	17.7	20.9	13.3
1400	7.5	6.7	8.8	8.1	6.9	9.7	7.1	6.6	7.8	18.8	21.9	14.6
1500	8.1	7.3	9.3	8.1	7.0	9.7	8.1	7.6	8.8	19.8	22.2	16.4
1600	7.9	7.5	8.4	7.0	6.3	7.8	8.8	8.7	9.0	19.8	21.7	17.2
1700	7.3	7.3	7.5	6.4	6.4	6.4	8.3	8.2	8.6	18.0	19.4	16.0
1800	7.0	7.2	6.7	6.0	6.3	5.4	8.0	8.1	7.9	16.0	17.6	13.8
1900	6.1	6.5	5.5	5.6	6.0	5.1	6.5	7.0	5.9	14.0	16.0	11.4
2000	5.0	5.6	4.1	4.2	5.0	3.2	5.7	6.1	5.1	13.1	15.0	10.5
2100	3.6	4.1	2.8	2.8	3.5	1.7	4.4	4.7	4.0	11.6	13.9	8.6
2200	2.7	3.1	2.1	1.8	2.4	1.2	3.6	3.9	3.2	10.0	12.7	6.4
2300	1.9	2.4	1.2	1.3	1.8	0.6	2.5	3.0	1.9	8.3	11.1	4.4
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	*	*	*
Flights	10,282	5,954	4,328	5,141	2,977	2,164	5,141	2,977	2,164	5,141	2,977	2,164

* IAC divided by total daily flights gives a total percentage greater than 100%

APPENDIX - TABLE 2
Military Cross-Country Flying: Flights, Times, Speeds, Altitudes, by Service and
Type Aircraft, Continental United States, Representative Busy Day FY 1961

Service and Type Aircraft		Former Designation	Flights (Number)	Hours Airborne		Average Speed (Knots)	Average Altitude (000 feet)	Distance Flown (Nautical Miles)	
Current Designation	Total-All Services			Total	Average			Average	Total
Total-All Services									
Air Force									
Bomber									
Jet									
B-47	313	Same	1,727	5:31	423	27	2,334	730,542	
B-52	98	"	816	8:20	441	29	3,675	360,150	
B-57	57	"	120	2:06	411	28	863	49,191	
B-58	3	"	18	5:33	515	33	2,858	8,574	
B-66	8	"	19	2:25	430	26	1,039	8,312	
Prop									
B-25	1	Same	3	3:11	180	8	573	573	
B-26	8	"	24	2:59	230	7	686	5,488	
B-50	8	"	46	5:48	260	14	1,508	12,064	
Fighter									
Jet									
F-84	40	Same	45	1:07	443	29	495	19,800	
F-86	63	"	53	:52	405	27	351	22,113	
F-89	26	"	35	1:22	398	27	544	14,144	
F-100	75	"	143	1:54	488	28	927	69,525	
F-101	16	"	27	1:42	482	32	819	13,104	
F-102	21	"	23	1:06	485	31	534	11,214	
F-104	12	"	12	1:04	520	33	555	6,660	
F-105	2	"	3	1:20	505	32	673	1,346	
F-106	2	"	2	1:08	540	35	612	1,224	

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Current Designation	Former Designation	Flights (Number)	Hours Airborne		Average Speed (Knots)	Average Altitude (000 feet)	Distance Flown (Nautical Miles)	
			Total	Average			Average	Total
Reconnaissance								
Jet								
RB-47	Same	4	17	4:15	420	28	1,785	7,140
RB-57	"	2	5	2:42	417	28	1,126	2,252
RB-66	"	1	2	2:09	445	17	957	957
RF-84	"	2	2	1:11	432	31	511	1,022
RF-101	"	1	2	1:37	487	33	787	787
Prop								
RC-47	Same	1	3	2:45	145	6	399	399
RB-50	"	1	4	4:00	250	12	1,000	1,000
RC-121	"	1	12	12:30	200	7	2,500	2,500
RC-130	"	1	2	2:00	280	14	560	560
Tanker								
Jet								
KC-135	Same	90	484	5:23	441	29	2,374	213,660
Prop								
KB-50	Same	5	21	4:10	260	20	1,083	5,415
KC-97	"	97	607	6:17	219	14	1,376	133,472

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Current Designation	Former Designation	Flights (Number)	Hours Airborne		Average Speed (Knots)	Average Altitude (000 feet)	Distance Flown (Nautical Miles)	
			Total	Average			Average	Total
Search & Rescue								
Prop HU-16 HC-47 HC-130	SA-16	20	58	2:54	148	5	429	8,580
	SC-47	4	14	3:41	138	6	508	2,032
	SC-130	1	3	3:18	290	24	957	957
Utility								
Jet U-2	Same	4	24	5:53	415	35	2,442	9,768
Prop U-3 U-4	Same	135	346	2:34	164	6	421	56,835
	"	7	20	2:55	144	6	420	2,940
Transport								
Jet C-135	Same	2	9	4:29	441	31	1,977	3,954
Prop C-45 C-47 C-54 C-97 C-117 C-118	Same	52	114	2:11	143	6	312	16,224
	"	490	1,597	3:16	142	6	464	227,360
	"	81	343	4:14	179	7	758	61,398
	"	35	179	5:08	219	10	1,124	39,340
	"	5	18	3:42	141	6	522	2,610
	"	41	194	4:44	233	13	1,103	45,223

Appendix - Table 2

<u>Current Designation</u>	<u>Former Designation</u>	<u>Flights (Number)</u>	<u>Hours Airborne Total</u>	<u>Average Speed (Knots)</u>	<u>Average Altitude (000 feet)</u>	<u>Distance Flown (Nautical Miles)</u>	
						<u>Average</u>	<u>Total</u>
C-119	"	136	391	170	6	490	66,640
C-121	"	38	327	213	8	1,835	69,730
C-123	"	81	279	156	7	538	43,578
C-124	"	91	408	200	7	897	81,627
C-130	"	44	130	286	19	844	37,136
C-131	"	54	252	202	9	943	50,922
C-133	"	10	69	252	17	1,730	17,300
Trainer							
Jet							
T-33	Same	1,042	1,634	375	28	588	612,696
T-37	"	22	29	240	17	312	6,864
TF-102	"	1	1	397	25	324	324
Prop							
T-28	Same	96	193	185	7	373	35,808
T-29	"	142	597	193	10	811	115,162
T-34	"	6	9	126	4	183	1,098
TC-47	"	1	5	145	7	785	785
TC-119	"	1	2	165	8	413	413
Helicopter							
HH-43	H-43	1	1	80	1	120	120
Navy							
		1,065	2,562	199	12	479	518,597
Attack							
Jet							
A-3	A3D	32	88	440	29	1210	38,720
A-4	A4D	31	37	426	26	497	15,407

Appendix - Table 2

Appendix - Table 2

Current Designation	Former Designation	Flights (Number)	Hours Airborne		Average Speed (Knots)	Average Altitude (000 feet)	Distance Flown (Nautical Miles)	
			Total	Average			Average	Total
AF-9	F9F-8B	2	2	:55	416	30	381	762
Prop								
A-1	AD	45	96	2:07	187	8	396	17,820
Fighter								
Jet								
F-1	FJ	20	28	1:24	443	30	620	12,400
F-2	F2H	4	5	1:08	388	28	440	1,760
F-3	F3H	6	6	:57	406	27	386	2,316
F-6	F4D	9	9	1:02	453	24	468	4,212
F-8	F8U	25	31	1:14	484	28	597	14,925
F-9	F9F	82	103	1:15	435	30	544	44,608
F-11	F11F	7	7	:57	468	27	445	3,115
Reconnaissance								
Jet								
RF-9	F9F-8P	1	1	1:24	450	32	630	630
Anti-Submarine								
Prop								
S-2	S2F	93	246	2:39	161	5	427	39,711
Warning								
Prop								
EC-121	WV	9	37	4:37	212	9	979	7,844
E-1	WF	2	7	3:30	150	5	525	1,050

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Appendix - Table 2								
Current Designation	Former Designation	Flights (Number)	Hours Airborne		Average Speed (Knots)	Average Altitude (000 feet)	Distance Flown (Nautical Miles)	
			Total	Average			Average	Total
Patrol								
Prop								
P-2	P2V	45	244	5:25	181	6	980	44,100
P-5	P5M	9	58	6:26	156	4	1,004	9,036
Observation								
Prop								
0-1	OE	3	6	1:49	108	4	196	588
Transport								
Prop								
C-1	TF	32	70	2:11	178	6	389	12,448
C-45	SNB	267	654	2:27	141	6	345	92,115
C-47	R4D	85	220	2:35	168	6	434	36,890
C-54	R5D	65	175	2:42	178	6	481	31,265
C-118	R6D	10	45	4:27	232	10	1,032	10,320
C-119	R4Q	19	48	2:33	173	6	441	8,379
C-121	R7V	2	3	1:36	267	11	427	854
C-131	R4Y	32	84	2:37	204	9	534	17,088
*	JRB	3	8	2:41	136	4	365	1,095
Utility								
Prop								
U-11	UO	2	5	2:17	162	7	370	740
U-16	UF	16	43	2:42	153	5	413	6,608
UB-26	JD	3	7	2:11	193	4	421	1,263

Appendix - Table 2

Appendix - Table 2								
Current Designation	Former Designation	Flights (Number)	Hours Airborne		Average Speed (Knots)	Average Altitude (000 feet)	Distance Flown (Nautical Miles)	
			Total	Average			Average	Total
Training								
Jet								
T-1	T2V	15	21	1:22	373	31	510	7,650
T-2	T2J	4	6	1:33	315	20	488	1,952
TF-9	F9F-8T	14	19	1:23	429	32	593	8,302
TF-10	F3D-2T	8	8	:58	358	23	346	2,768
T-33	TV	25	37	1:29	352	26	522	13,050
Helicopter								
TH-13	HTL	1	2	1:45	75	2	131	131
CH-19	HRS	6	12	2:02	64	2	130	780
UH-19	H04S	1	1	1:33	90	2	137	137
UH-25	HUP	8	14	1:46	78	2	138	1,104
SH-34	HSS	7	13	1:51	91	2	168	1,176
UH-34	HUS	11	20	1:52	87	2	162	1,782
CH-37	HR2S	2	3	1:37	85	2	137	274
UH-43	HUK	1	1	:50	55	2	46	46
Lighter than Air								
Z-1	ZPG	1	32	32:00	43	-	1,376	1,376
Army		474	1,239	2:36	107	5	280	132,865
Utility								
Prop								
U-1	U-1	36	100	2:46	105	5	291	10,476
U-6	L-20	165	431	2:36	107	5	278	45,870

Appendix - Table 2

Current Designation	Former Designation	Flights (Number)	Hours Total	Airborne Average	Average Speed (Knots)	Average Altitude (000 feet)	Distance Flown (Nautical Miles)	
							Average	Total
U-8	L-23	81	190	2:20	158	6	369	29,889
U-9	L-26	8	17	2:04	160	5	331	2,648
*	L-17	5	6	1:08	107	4	121	605
Observation								
Prop	L-19	105	278	2:39	93	4	246	25,830
O-1	AO	1	6	5:34	200	5	1,113	1,113
Training								
Prop	TL-19	12	32	2:40	102	4	272	3,264
T0-1								
Stol								
Prop	AC	1	1	1:12	150	6	180	180
CV								
Helicopter								
UH-1	HU	2	9	4:34	79	2	361	722
OH-13	H-13	10	39	3:48	63	2	239	2,390
UH-19	H-19	10	28	2:46	67	2	185	1,850
CH-21	H-21	18	42	2:20	79	2	184	3,312
OH-23	H-23	4	9	2:17	60	2	137	548
CH-34	H-34	12	38	3:07	82	2	256	3,072
CH-37	H-37	4	13	3:18	83	2	274	1,096

* Aircraft models which have not been redesignated and are no longer in the active inventory